



9-1-1 REGIONALIZATION FEASIBILITY STUDY

Counties: Douglas – Sarpy – Washington

Cities: Bellevue, Gretna, La Vista, Omaha, Papillion, Springfield

JANUARY 23, 2013

*University of Nebraska
Public Policy Center
215 Centennial Mall South, Suite 401
Lincoln, NE 68588-0228
Ph: 402-472-5678 | Fax: 402-472-5679
www.ppc.nebraska.edu*

EXECUTIVE SUMMARY

This feasibility study was authorized by governing bodies in Sarpy & Douglas Counties and the cities of Gretna, Papillion, Bellevue, La Vista, and Springfield in December 2011. An inter-local agreement was signed that authorized the study and formed a “Shared Services Committee” to oversee the study and make recommendations about “joint and cooperative sharing, provision and operation of communication systems and 9-1-1 services” to those jurisdictions. Two subcommittees representing Fire/Emergency Medical Services and Law Enforcement were also formed through this mechanism. A third subcommittee was also created to complete financial and technical analyses for the regionalization models preferred by the Shared Services Committee.

The timeline set for completion of the full feasibility study including adoption of recommendations from the study is no later than January 1, 2014.¹ The University of Nebraska Public Policy Center was retained for the first phase of the study via an existing contract with the Nebraska Emergency Management Agency to assist regional areas in planning for interoperable communications. This feasibility study falls within the scope of that contract so no additional funds from the participating jurisdictions were used for facilitation of this phase of the study.

The Technical/Finance Committee found that a shared 9-1-1 call center with separate dispatch centers can be achieved without capital improvements because the three counties have already collaborated on infrastructure improvements. In fact, the shared 9-1-1 cost center is projected to result in modest cost savings and improved performance in the near term and potential greater cost saving in the long term.

¹ See Appendix I: Exhibit A in the Inter-local Agreement entered into by Sarpy & Douglas Counties, and the cities of Bellevue, Gretna, La Vista, Papillion, and Springfield.

The recommendation is to move forward on a single 9-1-1 call center with multiple dispatch centers for the short term, eventually moving toward a single combined 9-1-1 dispatch center. Next steps include the following:

1. Develop a clear project management plan with goals, action steps, responsibilities, time lines, and milestone metrics
2. Develop a governance structure
3. Develop a cost allocation method
4. Develop an inter-local agreement

OVERVIEW

The nation's 9-1-1 emergency system was originally designed to work over land-line (wired) telephones. Technology has advanced since the inception of 9-1-1 in the late 1960's. Today plans are being made to enhance 9-1-1 across the nation so it is an emergency services network, not just a 9-1-1 network. The next generation of 9-1-1 (often referred to as NG9-1-1) includes technology and systems that enable communication with public safety answering points (PSAPs) that include voice and data (e.g., pictures, texts and video) from wired, wireless and voice over internet protocol (VoIP) devices. Ideally, 9-1-1 centers will be able to sort through, manage and send out pertinent incoming information to public safety responders in the field. For example, someone may send a video to a 9-1-1 center from inside a crime scene that is in turn sent to the officer in the field. In such situations it is likely that 9-1-1 will have to rapidly respond to large numbers of calls, texts, pictures and videos which requires enhanced technology and decision making.

Jim Lundsted from the Federal Office of Emergency Communications (OEC) gave a presentation to the Shared Services Committee on February 21, 2012 about the National Emergency Communications Plan and potential impact of NG9-1-1 for local governments.² He emphasized that major changes such as NG9-1-1 are more efficient and cost effective in a shared system rather than in multiple, smaller emergency communications centers. He also noted that cost savings are not typically realized at the beginning but are usually achieved over time in lower costs per call, economies of scale in administrative support; training; equipment; maintenance and hardware/software upgrade costs. The presentation also underscored the importance of including consideration of a governance structure to oversee development and coordination of consolidation efforts.

The purpose of this feasibility study was to determine if it made sense from the service level and financial perspective to consider sharing, consolidating or regionalizing 9-1-1 services in the Tri-County area. This study builds on a smaller study in July 2011 that looked at implications in Douglas County if 9-1-1 calls from selected Sarpy County communities were handled by the Douglas County Communications Center.

² See Appendix II: Jim Lundsted's Shared Services Committee 9-1-1 Regionalization Study presentation slides from February 21, 2012

This study was authorized by governing bodies in Sarpy & Douglas Counties and the cities of Gretna, Papillion, Bellevue, La Vista, and Springfield in December 2011 via an inter-local agreement. Washington County also elected to participate in the study. Several other entities were invited to attend meetings and participate in discussions but opted not to participate in the full study (Pottawattamie County Iowa, Cass County Nebraska, City of Fremont in Dodge County Nebraska). The University of Nebraska Public Policy Center (PPC) was asked to facilitate the first phase of the study as part of an existing contract with Nebraska Emergency Management to assist regional areas with interoperability planning.

THE PLANNING PROCESS

The Shared Services Committee guided the planning process with the assistance of the Public Policy Center. The first meeting of the group was held February 21, 2012.³ A priority identified by the Committee was to obtain feedback from public safety agency personnel (fire, EMS, law enforcement) in the cities and counties participating in the study. This was accomplished via focus groups and an on-line survey following a meeting of subcommittees on April 13, 2012. Simultaneously, the technical/finance subcommittee explored and proposed regionalization options that could be considered by the group.

The second meeting of the Shared Services Committee was October 1, 2012 where the results of the survey/focus groups were shared along with options for regionalization. The group asked the technical/finance subcommittee to identify considerations for a single call center including potential costs and savings.

A web-based presentation was hosted by the Public Policy Center for all Shared Services Committee and subcommittee members on August 27, 2012. It featured a presentation by representatives from the Mid-America Regional Council (MARC), the nonprofit association of city and county governments and the metropolitan planning organization for the bi-state

³ See Appendix III: Shared Services Committee Meeting minutes and briefing material

Kansas City region. Representatives from MARC presented an overview of the process, management, and structure of their shared 9-1-1 service group.⁴

User Feedback

The 9-1-1 Regionalization User Feedback Survey was completed by 602 respondents. Three focus groups were held with law enforcement and fire/EMS representatives following the survey to add more depth and understanding of the results. Of those completing the survey, 76% represented Law Enforcement and 22% represented Fire/EMS. The most popular option for regionalization was a single 9-1-1 call center although there was some uncertainty as to what regionalization really was. Law Enforcement respondents prioritized getting good, accurate information into the field right away. Fire & EMS responders wanted calls handled most efficiently. Standardization of equipment was also important to the Fire/EMS responders. The Law Enforcement subcommittee recommended that no matter the decision for regionalization, efforts should be coordinated with the state. They also wanted to ensure that end-user input be formalized as part of any future governance structure. Respondents were concerned that politics, cost, and lack of cooperation could be barriers to regionalization. Fire/EMS appeared to be more concerned than law enforcement with resource sharing because they share resources frequently with automatic aid agreements for everyday calls.⁵

⁴ See Appendix IV: Presentation slides from MARC 9-1-1, A regional approach to 9-1-1

⁵ See Appendix V: Omaha Metropolitan Area 9-1-1 Regionalization User Feedback Survey Results

ESTIMATED COST OF A TRI-COUNTY SHARED SERVICES 9-1-1 CENTER

The Technical/Finance Committee was charged with estimating the costs associated with a shared services 9-1-1 center for the Counties of Douglas, Sarpy, and Washington. To accomplish this task, the Committee examined context including timelines and assumptions, staffing for the call center, projected costs for the center, potential cost savings and net costs for developing the 9-1-1 center, and a potential cost allocation method for the three counties.⁶

Because of many factors that could impact 9-1-1 centers over the next decade (e.g., implementation of Next Generation 9-1-1 Systems, improved broadband technology, changing in the fiscal climate and potential funding opportunities, and possible state executive and legislative policy changes), subcommittee members determined that projecting costs for the single 9-1-1 Call and Dispatch Center across 10 years would be difficult. There will likely be a need for significant capital improvements and major equipment purchases that cannot be anticipated at this time because of probable advances in 9-1-1 technology during this extended time period. Therefore, more realistic estimates can be made for the interim step of implementing the single 9-1-1 call center with multiple dispatch centers than for the ensuing potential costs of combining dispatch centers.

The analysis found the single 9-1-1 call center with multiple dispatch centers could be achieved with modest cost savings (see Table 1). In addition, there are likely to be additional monetary savings as the three counties work in partnership to replace equipment and make upgrades to make use of new technology associated with Next Generation 9-1-1 capabilities. Apart from the monetary benefits, it is likely the shared 9-1-1 call center will enhance and standardize level of service and achieve the goal of answering 90% of calls within 10 seconds.

⁶ See Appendix VI: Report from the Technical and Finance Subcommittee

Table 1: Net costs for operation of the shared 9-1-1 call center by year

Fiscal Year	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
Projected Additional Costs	\$0	\$0	\$287,979	\$299,471	\$311,421	\$323,850
Projected Avoided Costs	\$0	\$0	\$297,890	\$308,005	\$318,526	\$329,467
Additional Costs/(Savings)	\$0	\$0	(\$9,9-1-1)	(\$8,534)	(\$7,105)	(\$5,617)

Potential cost allocation methods could be based on call volume, population, or other factors. Examples are shown in Tables 2 – 4. Allocation within counties (for example across 9-1-1 centers for counties that have more than one 9-1-1 center) would need to be determined as well.

Table 2: Example cost allocation based on population.

County	2011 Population	Proportion	Allocation
Douglas	524,861	74.16%	\$1,599,228
Sarpy	162,561	22.97%	\$495,338
Washington	20,295	2.87%	\$61,890
Total	707,717	100.00%	\$2,156,456

Table 3: Example cost allocation based on 9-1-1 calls for service.

County	2012 9-1-1 Calls	Proportion	Allocation
Douglas	326,653	93.74%	\$2,021,462
Sarpy	20,881	5.99%	\$129,172
Washington	925	.27%	\$5,822
Total	348,459	100.00%	\$2,156,456

Table 4: Example cost allocation based on total 9-1-1 calls received. (See Table 1)

County	2012 Total 9-1-1 Calls Received	Proportion	Allocation
Douglas	387,259	87.10%	\$1,878,273
Sarpy	52,273	11.76%	\$253,599
Washington	5,064	1.14%	\$24,584
Total	444,596	100.00%	\$2,156,456

RECOMMENDATIONS

The following recommendations are intended to assist the Shared Services Committee in formulating the next steps in determining feasibility of regionalization.

The recommendation is to move forward on a single 9-1-1 call center with multiple dispatch centers for the short term, eventually moving toward a single combined 9-1-1 dispatch center.

Recommended next steps include the following:

- 1. Develop a clear project management plan with goals, action steps, responsibilities, time lines, and milestone metrics**

Using a project management plan helps with accountability and transparency. The plan should be reviewed and adjusted periodically to reflect achievements and unforeseen obstacles as the project unfolds. The plan may be developed and managed by a contractor or by personnel allocated for this task by the Shared Services Committee Member Entities. If this task is not assigned and the plan is not agreed upon by the Committee the entire project won't move forward in a timely manner and all calculations done in this first phase of the study may need to be repeated to reflect current costs and demands.

- 2. Develop a governance structure**

Governance is integral to the success of a shared 9-1-1 call center and its development should be reflected on the project management plan. Decisions about the make-up and operation of governance by the Shared Services Committee will require review and endorsement by a number of local authorities. Developing governance should include creation of easy to understand materials to explain the project and governance to citizens, authorities and 9-1-1 user agencies.

3. Develop a cost allocation method

Once participating entities are determined, the Shared Services Committee should decide which cost allocation method is preferred. Several choices were outlined by the Technical/Finance subcommittee and each is likely to have champions. Achieving consensus on the cost allocation within the Shared Services Committee is an important step toward moving formal governance and agreements through local governments as part of an inter-local agreement.

4. Develop an inter-local agreement

We recommend formalization of decisions made by the Shared Services Committee in an inter-local agreement. The quasi-governmental status of governance resulting from an inter-local agreement has advantages over memorandums of understanding binding jurisdictions together for a single 9-1-1 call center. Additional partners may be brought on with adoption of the agreement as needed.

APPENDICES

Appendix I: Exhibit A in the Inter-local Agreement entered into by Sarpy & Douglas Counties, and the cities of Bellevue, Gretna, La Vista, Papillion and Springfield.

Appendix II: Jim Lundsted's Shared Services Committee 9-1-1 Regionalization Study presentation slides from February 21, 2012

Appendix III: Shared Services Committee Meeting minutes and briefing material

Appendix IV: Presentation slides from MARC 9-1-1 Webinar

Appendix V: Omaha Metropolitan Area 9-1-1 Regionalization User Feedback Survey Results

Appendix VI: Technical/Finance Subcommittee Report

APPENDIX I: EXHIBIT A IN THE INTER-LOCAL AGREEMENT ENTERED INTO BY
SARPY & DOUGLAS COUNTIES, AND THE CITIES OF BELLEVUE, GRETNA, LA
VISTA, PAPILLION AND SPRINGFIELD.

EXHIBIT A

Shared Services

A) Parties to Committee:

The Committee for Shared Services ("Committee") will be initially comprised of representatives from the following parties:

Sarpy County
Douglas County
City of Bellevue
City of Gretna
City of La Vista
City of Papillion
City of Springfield

If Washington, Pottawattamie or Mills County, or any city therein, desires to participate in the study, said city or county, upon delivering to the Committee written authorization and agreement to participate in the study, shall have representation on the Committee and other rights and obligations of a party with respect to the study as provided in this Exhibit.

B) Composition of Committee:

The governing body of each party shall have two voting representatives on the Committee. Said representatives shall be the chief administrative officer and the Mayor or Board Chair of the party. A representative may, by letter, designate a temporary substitute for him or her. The Committee shall be authorized to appoint any subcommittees that the Committee determines necessary or appropriate to carry out the Study or any tasks of the Committee.

The following individuals shall serve on the Committee as ex officio, non-voting members:

1. Director of Sarpy County 911 Communications Center
2. Director of Douglas County 911 Communications Center
3. One public safety official appointed by each city or county participating in the study. The public safety official will be the chief law enforcement or fire department official of the city or county, or such other representative of users as designated by the appointing city or county, and serve at the pleasure of the appointing entity.

C) Meetings of Committee

By a majority vote of the parties, a third party facilitator shall be retained no later than _____ to schedule, organize and facilitate all meetings and business of the Committee. Said facilitator shall call an initial meeting of

the Committee on or before December 1, 2011 and will at that time provide to all parties a proposed schedule of future meetings as well as the proposed approach to a Shared Services Study, which meeting schedule shall be finalized and adopted and the Study commenced no later than January 1, 2012. A majority of the political subdivisions represented by a voting member at a meeting of the Committee at which a quorum is present shall be required for the Committee to act. A majority of the number of political subdivisions participating in the study shall constitute a quorum. Each participating county or city shall have one vote, to be jointly exercised by its two voting representatives on the Committee; provided, however, if only one representative is present at a meeting, the representative shall suffice for counting the city or county as present for quorum and voting purposes, and the representative who is present shall be permitted to exercise the vote of the city or county he or she represents.

D) Funding of Committee Meetings

Sarpy and Douglas County will utilize planning dollars in the Homeland Security Grant Program to hire the third party facilitator for the Committee and to conduct the Shared Services Study, which planning dollars the parties believe will be sufficient to pay all costs of the Committee and Shared Services Study. However, if any costs of the Study or Committee are not paid by the planning dollars, those costs shall be shared by the parties participating in the Study in proportion to their relative populations.

E) Goal of Committee

The goal of the Committee generally shall be to assess and provide recommendations regarding the joint and cooperative sharing, provision and operation of communications systems and 911 Services by the governing bodies of the parties participating in the Study. More specifically, the Study shall include:

1. An assessment of:

(a) The feasibility, efficiencies and structure of shared facilities, equipment and services and any technical, operational, management or implementation issues presented; and

(b) Projected costs, including costs of transition or implementation, shared costs, and investment in equipment required by individual participating entities, and projected cost sharing and savings; and

2. Recommendations and conclusions, including:

(a) Cost effectiveness and proposed structure of a regional communications system and delivery of 911 Services; and

(b) Recommended timetable for implementation; and

3. The Study shall be completed no later than January 1, 2014. At the conclusion of the Study, a written report shall be prepared and provided to each party participating in the Study, which report shall include a summary of findings, conclusions, recommendations and proposed agreement(s) to implement the recommendations.

Said report also shall include the substance of any communications with other agencies or entities, and a narrative of the relative advantages and disadvantages of any recommended actions. The final recommendations shall be made and written report issued by no later than June 1, 2014.

F) Action of Governing Bodies

Upon receipt of the recommendations of the Committee, the governing body of each political subdivision participating in the Study within forty five (45) days thereafter shall act to:

- 1) Approve said recommendations and proposed agreement(s) and proceed with implementation; or
- 2) Approve such recommendations and proposed agreement(s) and proceed with implementation, contingent upon certain specific changes be made in any proposed agreement; or
- 3) Disapprove said recommendations

After the final report is issued, any City under the Sarpy County Communications System Interlocal Agreement that desires to proceed with the recommendations of the Study shall have the option to terminate its participation under said Agreement upon at least 90 days advance written notice to the other parties, notwithstanding anything in the Agreement to the contrary. Any party to said Agreement at that time desiring not to proceed with recommendations of the Study shall have the option to continue under this Agreement.

Times for performance shall be of the essence.

APPENDIX II: JIM LUNDSTED'S SHARED SERVICES COMMITTEE 9-1-1
REGIONALIZATION STUDY PRESENTATION SLIDES FROM FEBRUARY 21, 2012

Shared Services Committee 9-1-1 Regionalization Study

Papillion, NE ■ February 21, 2012



**Homeland
Security**

**Jim Lundsted
Office of Emergency
Communications (OEC)**

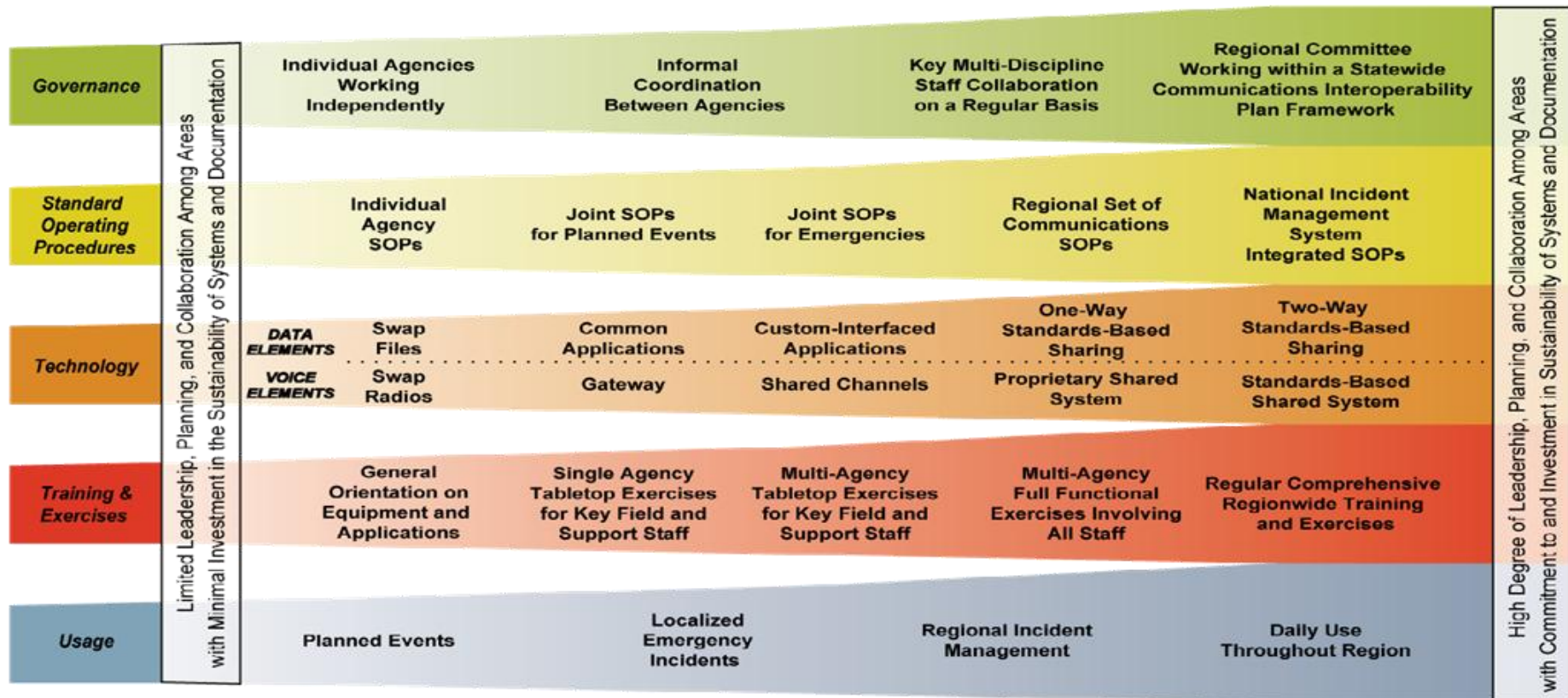
Mission

The mission of OEC is to unify and lead the nationwide effort to improve emergency communications capabilities across all levels of government



Homeland
Security

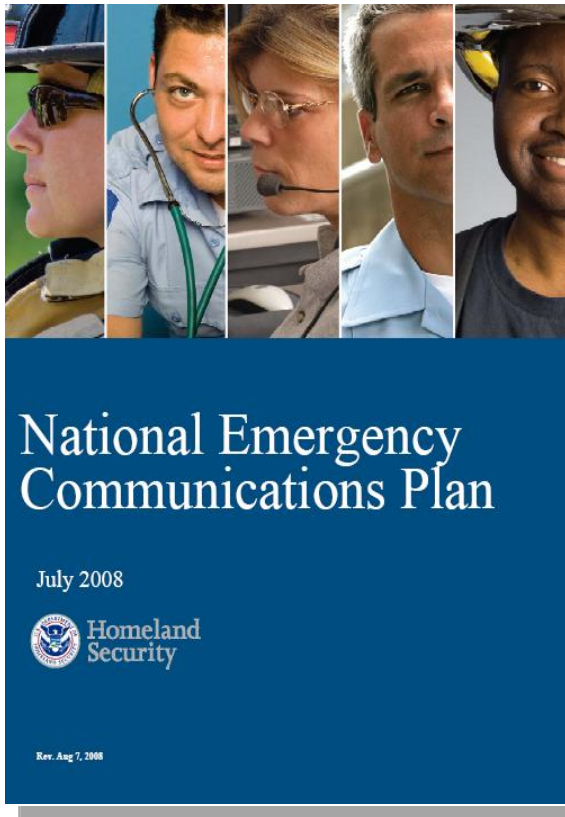
Interoperability Continuum



Homeland Security

National Emergency Communications Plan

Vision – Emergency responders can communicate as needed, on demand, as authorized; at all levels of government; and across all disciplines



Released July 2008

- Developed in coordination with 150+ representatives from all major public safety organizations and private sector
- Addresses operability, interoperability, continuity

First National Strategic Plan

- 3 Performance-based Goals
- 7 Objectives that set priorities
- 92 Milestones to track progress

Implementation

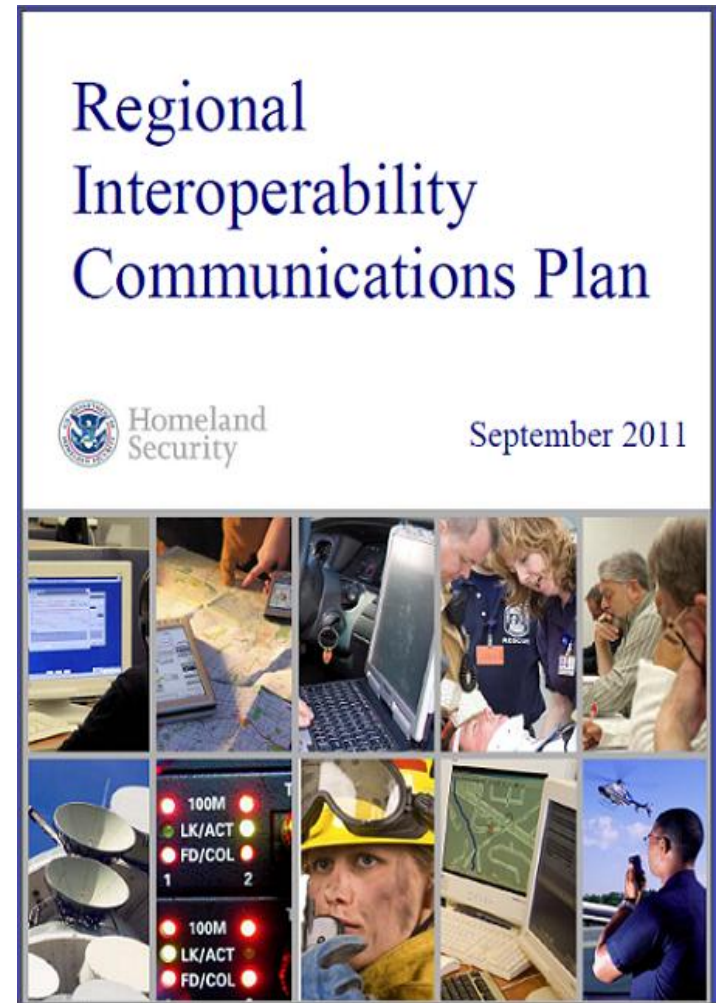
- Build capability/capacity (governance, exercises, SOP, usage)
- National assessments
- Target resources (funding, technical assistance, training)



**Homeland
Security**

Regional Planning Guidance

- **OEC guidance** documents share best practices and strategies proven successful in achieving common goals for interoperable communications
- Recognizing a future for public safety communications that will be more robust, more complex, and more expensive to build and maintain, many jurisdictions are studying how partnerships, including shared systems strategies may be advantageous
- Some good examples of shared systems include Kansas City's (Mid-America Regional Council) regional area multi-band regional interoperable radio system (RAMBIS) and the OPPD shared microwave network used by Douglas, Sarpy, Washington and Pottawatomie (IA) counties



Homeland
Security

Concept of Shared Services

Key understandings must exist among stakeholders:

- Costs savings are NOT typically realized at the beginning
- Savings *are* usually achieved, over time, in lower costs per call, economies of scale in administrative support, training, and equipment operations, and maintenance (O & M), and hardware/software upgrade costs
- Implementing major changes, such as Next Generation 9-1-1, EMD or public-safety broadband is more efficient and cost effective in a shared system than in multiple, smaller emergency communications centers
- Larger centers allow employee tasks to be focused: call takers vs. dispatch, as opposed to having a center's staff assigned to multiple duties (such as call taker and dispatch, training leader, technical support or handling additional administrative duties)
- The over-arching goal in successful implementations of shared services is to enhance services, not solely to achieve financial savings.

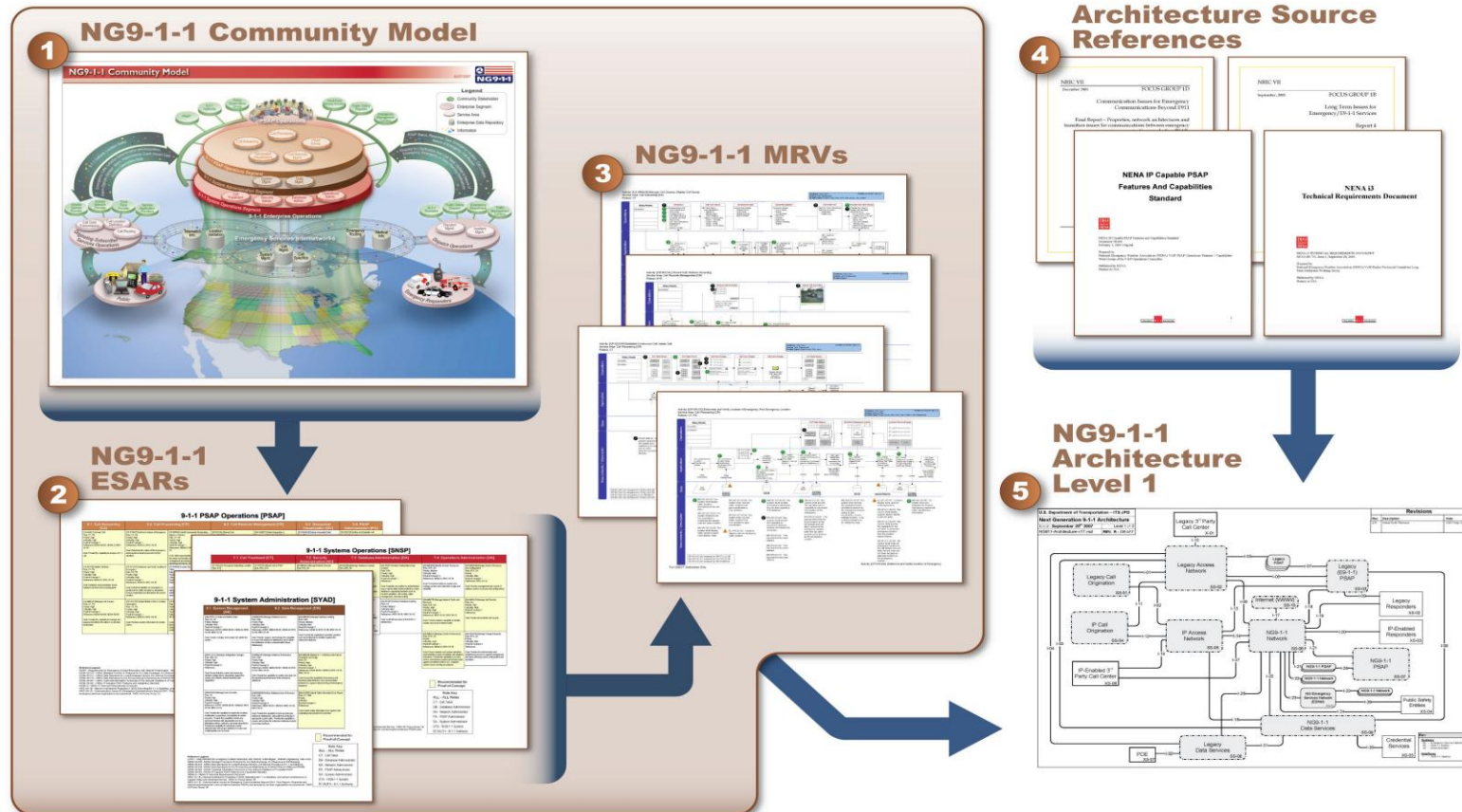


**Homeland
Security**

Next Generation 9-1-1



Inputs to the NG9-1-1 Architecture



Homeland
Security

Future Preparedness Grants



Homeland
Security

Future Preparedness Grants

- As government at all levels transitions from years of building new capabilities under Homeland Security grant programs to the new preparedness grants (Presidential Policy Directive-8) as the basis for future funding priorities, the whole community concept will increasingly set priorities for grants. Not only must we maintain and sustain capabilities we have established, we'll also need to work to eliminate duplications to continue to maintain what we now have.

→ An example: many communities cannot afford a fully-equipped HazMat team. Could the capabilities of these teams be shared, with initial response capability maintained in your community, and rely on a regional asset for larger incidents?



Homeland
Security

Wireless Broadband Planning



Interoperability Planning for Wireless Broadband

November 2011



Homeland
Security

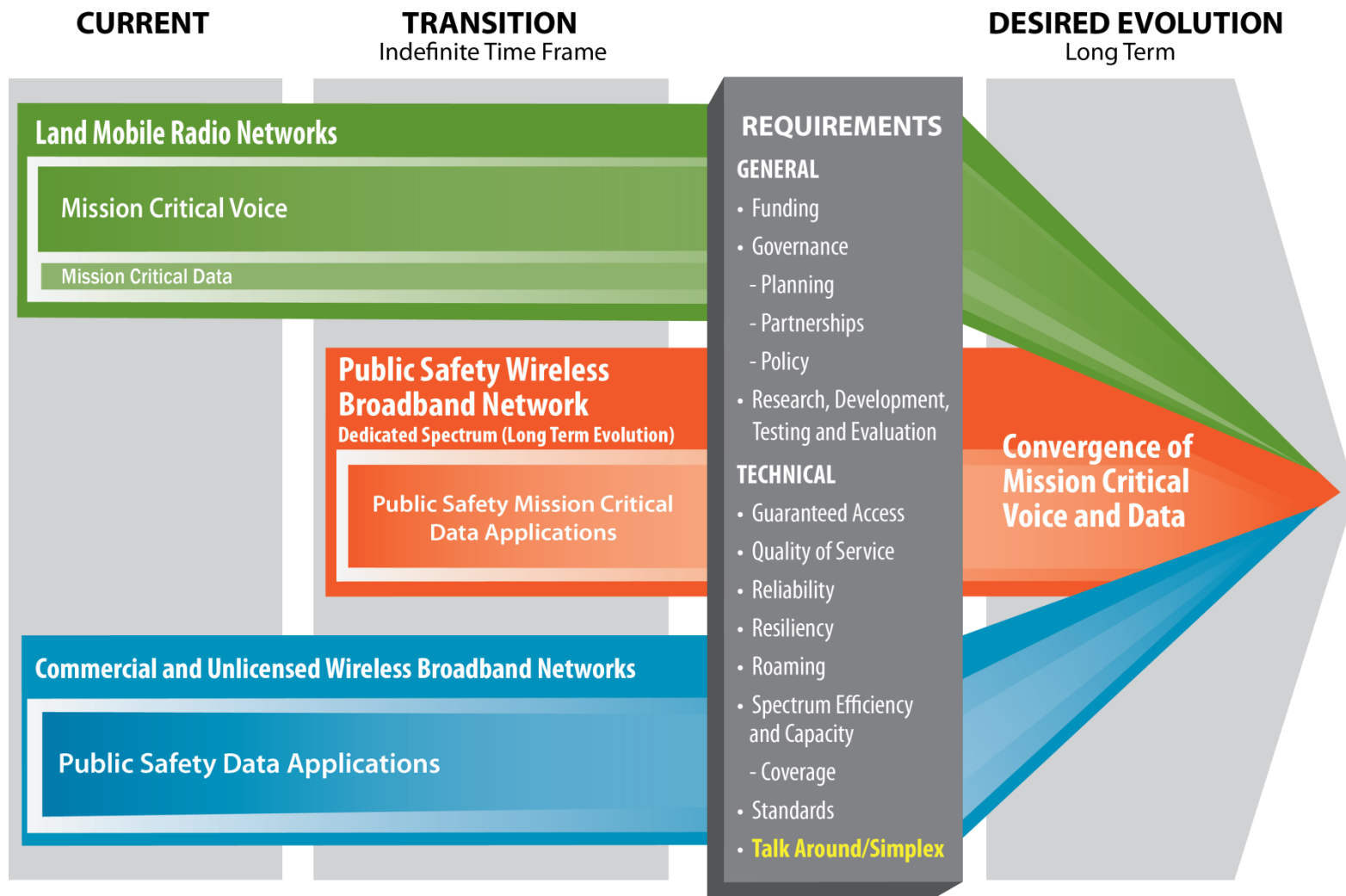
Planning for Wireless Broadband

- Continue partnerships with Federal agencies and public safety
- Determine technical requirements
- Focus on all lanes of the Interoperability Continuum as new technology develops



Homeland
Security

Public Safety Communications Evolution



Homeland
Security

Contact Information

OEC

oecl@dhhs.gov

WEB

www.dhhs.gov, search keyword: OEC

Guidance Documents

www.dhhs.gov, search keyword: OEC Publications

Jim Lundsted

(573) 298-0484

(202) 630-1177 (cell)

james.lundsted@dhhs.gov



**Homeland
Security**



Homeland Security

Office of Emergency Communications

APPENDIX III: SHARED SERVICES COMMITTEE MEETING MINUTES AND BRIEFING MATERIAL

**Shared Services Committee
9-1-1 Regionalization Study**

**February 21, 2012; 9:00 – 11:00 AM
Sarpy County Administration Building, Suite # 1126
1210 Golden Gate Drive, Papillion, NE**

Minutes

1. Welcome and Introductions

Larry Lavelle, Sarpy County Emergency Manager, welcomed the Shared Services Committee members, subcommittee members, and public to the meeting. Mark DeKraai, Public Policy Center, reviewed the agenda and presented the process. (See attached for list of attendees.)

2. Background/Purpose of the Regionalization Feasibility Study – Denise Bulling, University of Nebraska Public Policy Center

The committee reviewed the background material. Information throughout the study can be found online at: <http://911study.nebraska.edu>. This study was authorized through an inter-local agreement. The timeline for this study goes through 2014, though we hope to have the majority of information to complete the study by 2012. Over Spring and Summer 2012, the Public Policy Center will conduct focus groups to gather information that will inform the committee as they formulate recommendations related to sharing infrastructure for 911 services. The Shared Services committee will reconvene in Fall-2012 to review the results of the focus groups. Law Enforcement, Fire/EMS, and Fiscal subcommittees will guide the Public Policy Center in the process to gather information from each of their constituencies.

3. Background Information about Regionalization – Jim Lundsted, Office of Emergency Communications, Dept. of Homeland Security

Mr. Lundsted told the group that there are five areas that must be addressed in interoperable communication planning: governance, system architecture, training, standard operating procedures, and systems. A Regional Interoperable Communications Planning Guide is available at: <http://www.safecomprogram.gov/>. There are many success stories in shared services, but committee members were encouraged to find the system that works for this area. He noted that cost savings are not typically realized at the beginning, but savings may tracked over time in areas like costs per call, common costs, economies of scale in administrative support, training and equipment operations, and maintenance and hardware, and software upgrade costs. For example, implementing major changes like next-generation - 911 or public safety broadband is more efficient and cost-effective in a shared system than when trying to change multiple, smaller emergency communication centers. A shared system allows employee tasks to be more focused.

4. Define Regionalization

It is important to identify goals, where we are now, and how we can achieve our goals. The group broke into small groups to identify the expectations of this study and what regionalization means.

5. Identify Information needed for the Study and Process for Getting It

The group broke into small groups to identify the information they wanted to capture from the study, such as recommendations and decisions.

6. Next Steps

The subcommittee groups will come together as a next step. The Public Policy Center will consolidate the information from today's small group sessions and compile examples of other successful systems that adopted a regional approach to 911 services. This committee will reconvene later in the process to consider the information gathered and how to move forward on the recommendations from the focus groups.

7. Public Comment

The floor was open for public comment. No comments were offered.

Shared Services Committee Meeting Sign-in Sheet (2/21/2012)

Name	Organization	Attending :	
		Member	Guest
Steve Knutson	City of Bellevue	x	
Steve Beits	City of Bellevue	x	
Rita Sanders	City of Bellevue	x	
Rich Severson	City of Bellevue	x	
Brenda Gunn	City of LaVista	x	
Sheila Lindberg	City of LaVista	x	
Steve Oltmans	City of Omaha	x	
Bill Bowes	City of Papillion	x	
Dan Hoins	City of Papillion	x	
Kathleen Gottsch	City of Springfield	x	
Mark Conrey	Doug County	x	
Kathleen Kelley	Douglas County	x	
Sally McGuire	Gretna	x	
Colleen Lowry	Gretna	x	
Doug Kindig	LaVista	x	
David Black	Papillion	x	
Larry Lavelle	Sarpy Co.	x	
Rusty Hike	Sarpy Co.	x	
Mike Dill	Springfield	x	
Pam Spaccarotella	City		x
Garry Gernandt	City Council/Omaha		x
John Stacey	City of Bellevue		x
Dale Shotkoski	City of Fremont		x
Phil Ruhe	City of Omaha		x
Mary Ann Borgesm	Do County		x
Paul Marsh	Dodge County		x
Kev Ward	Douglas County Chief		x
Marty Bilek	Douglas Sheriff		x
Tim Dunning	DSCO		x
Joe Lorenz	Finance Director-Douglas Co.		x
Shelly Holzerland	Fremont		x
Jeff Elliott	Fremont		x
Bob Lausten	LaVista Police		x
Kevin Pokorny	LaVista Police		x
Tom Ling	Mills Co. 911		x
Tony Kosisa	Motorola		x
Dan Stolinski	Omaha Fire		x
Todd Schmaderer	Omaha Police		x
Robert Andersen	Pott Co.		x
Denise Mayor	Sarpy Co 911		x
Scott Bovick	Sarpy Co.		x
Marilyn Gable	Sarpy Co. 911		x
Brian Hanson	Sarpy County Fiscal		x
Phil Brazelton	Washington Co. So 91		x

Briefing Material

Shared Services Committee Meeting

9-1-1 Regionalization Feasibility Study

February 21, 2012; 9:00 – 11:00 AM

**Sarpy County Administration Building, Suite # 1126
1210 Golden Gate Drive, Papillion, NE**

Contents

Background Material

Background for Stakeholder Meeting February 21, 2012..... 2

FAQ’s 3

9-1-1 Call Volume for Sarpy and Douglas Counties 4

Timeline for Douglas & Sarpy County 9-1-1 Regionalization Feasibility Study..... 5

AGENDA..... 6

This briefing material was prepared by the University of Nebraska Public Policy Center for the Shared Services Committee Meeting on February 21, 2012 (see the agenda located on page 6 for the time/location of the meeting).

Background Material

Background for Stakeholder Meeting February 21, 2012

This feasibility study was authorized by governing bodies in Sarpy & Douglas Counties and the cities of Gretna, Papillion, Bellevue, La Vista, and Springfield in December 2011. An inter-local agreement was signed that authorized the study and formed a “Shared Services Committee” to oversee the study and make recommendations about “joint and cooperative sharing, provision and operation of communication systems and 9-1-1 services” to those jurisdictions. Two user groups representing Fire/EMA and Law Enforcement were also formed through this mechanism. A third subcommittee for budget was also created to do cost analysis.

The timeline set for completion of the full feasibility study including adoption of recommendations from the study is no later than January 1, 2014.¹ The University of Nebraska Public Policy Center has been retained via a contract with the Nebraska Emergency Management Agency to assist regional areas in planning for interoperable communications. This feasibility study falls within the scope of that contract so no additional funds from the participating jurisdictions are needed for facilitation of the project.

This study begins with a meeting of the decision makers (Shared Service Committee) in February 2012. Following this initial meeting, Public Safety response agencies and impacted public safety answering point personnel will be convened in focus groups or individually interviewed to ensure their needs and voices are heard in this process. Any consolidation, sharing or regionalization will fail if the needs of the end users are not incorporated in the recommendations. For this reason it is a critical piece of the feasibility study.

A number of similar feasibility studies and public safety answering point consolidation projects have occurred in jurisdictions across the United States. The lessons learned from those efforts will be shared with stakeholders during this study. Recommendations applicable to the current study include:

- Focus on building relationships and collaborating. These are keys to success. It is important to get stakeholders in the same room and start cultivating relationships.
- Get input from all people and organizations impacted by any change in the way 9-1-1 functions. This includes Decision makers, participating agencies and citizens.
- Approach collaboration as a regional proposition rather than on that strictly affects an individual political jurisdiction or agency. Be willing to compromise.
- Set expectations of the process in the beginning so everyone is on the same page.

These following pages serve as a brief introduction to 9-1-1 services, the feasibility study process and the role of the Shared Services Committee in this process.

¹ From Exhibit A in the Inter-local Agreement entered into by Sarpy & Douglas Counties, and the cities of Bellevue, Gretna, La Vista, Papillion and Springfield.

FAQ's

What is “Next Generation 9-1-1”?

You will hear a lot about Next Generation 9-1-1 as a consideration for future emergency communication systems. This refers to adapting 9-1-1 technical capabilities to allow call centers to identify the location and technology used by a caller from a wider range of devices than is now possible. For example, many people use voice-over-internet (VoIP) technology like Skype or Vonage and a range of mobile devices that require different capabilities than most call centers are currently equipped to manage. Next Generation 9-1-1 (referred to as NG9-1-1) will allow for text, photos, videos or other data to be shared among all public safety responders and answer points.

**For more information about
next generation 9-1-1:**

**[What's Next Forum Report,
August 30, 2011](#)**

**[Next Generation 9-1-1
Research Overview](#)**

Why are we talking about shared services, regionalization or consolidation of public safety answering point (PSAP) activity now?

Safety and efficient service delivery for citizens is the number one consideration for public safety agencies. It is critical to keep up with the changing ways people communicate to ensure our public safety professionals can safely locate and respond to emergencies. The technology required to meet this need is rapidly changing will require substantial future investments to upgrade communications infrastructure in many of our jurisdictions. Exploring the options and models available to us now will allow us to plan for potential long term cost efficiencies while improving service to citizens.

What is the purpose of the feasibility study?

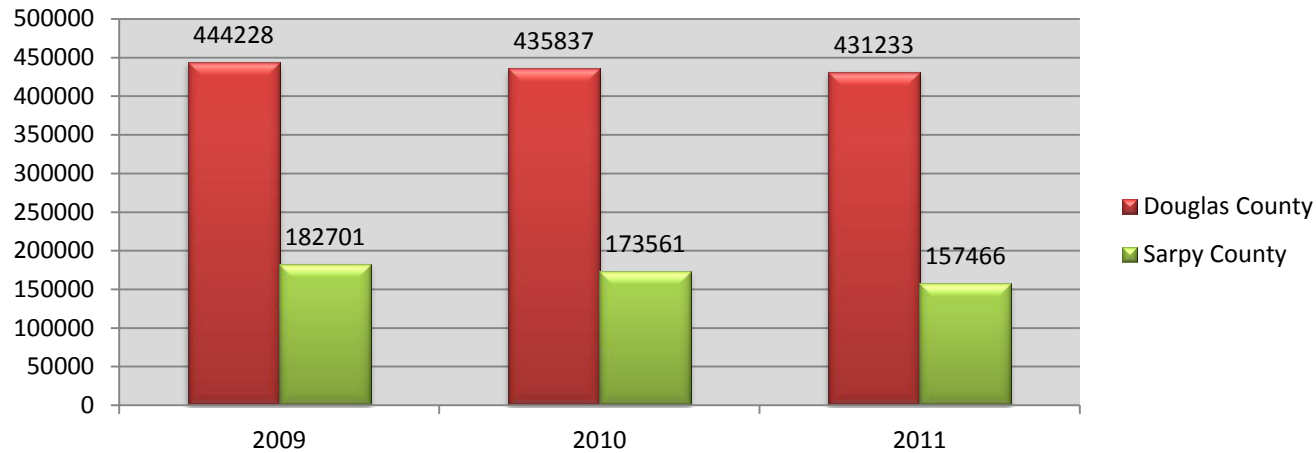
The purpose of this study is to determine if it makes sense from the service level and financial perspective to consider sharing, consolidating or regionalizing 9-1-1 services in our area. It will build on a smaller study done in July 2011 that looked at implications in Douglas County if 9-1-1 calls from selected Sarpy County cities were handled by the Douglas County Communications Center.

Who is determining how the results of the study will be used?

In December 2011 an inter-local agreement was crafted to form a Committee “to assess and provide recommendations regarding the joint and cooperative sharing, provision and operation of communications systems and 9-1-1 Services by the bodies of the parties participating in the Study.” This Committee officially consists of two representatives each from Sarpy and Douglas Counties, the cities of Bellevue, Gretna, La Vista, Papillion and Springfield. Other jurisdictions may also participate if they make a request to do so in writing.

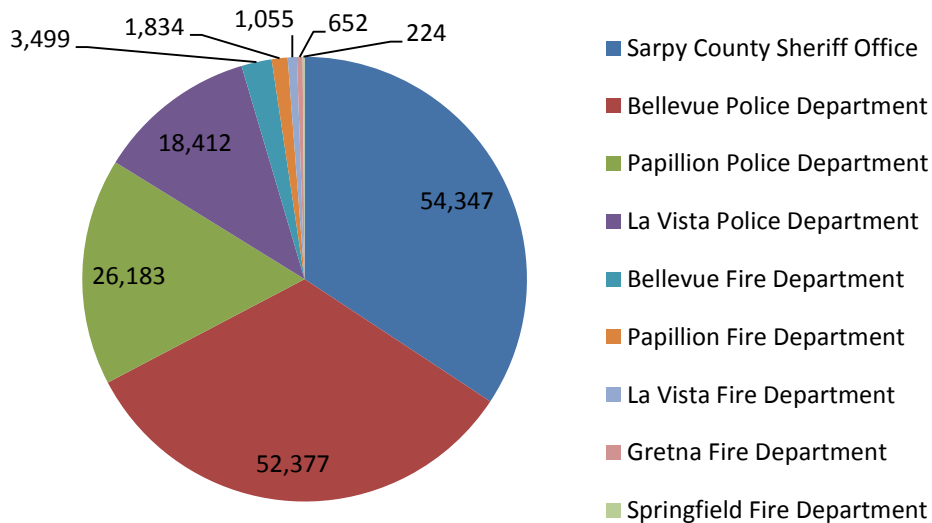
9-1-1 Call Volume for Sarpy and Douglas Counties

Douglas and Sarpy County 911 Call Volume

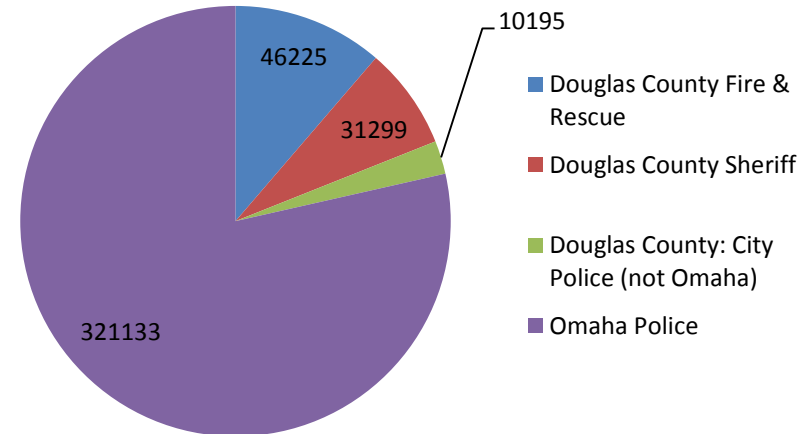


The information for these charts was provided by Sarpy and Douglas County Emergency Communications Centers.

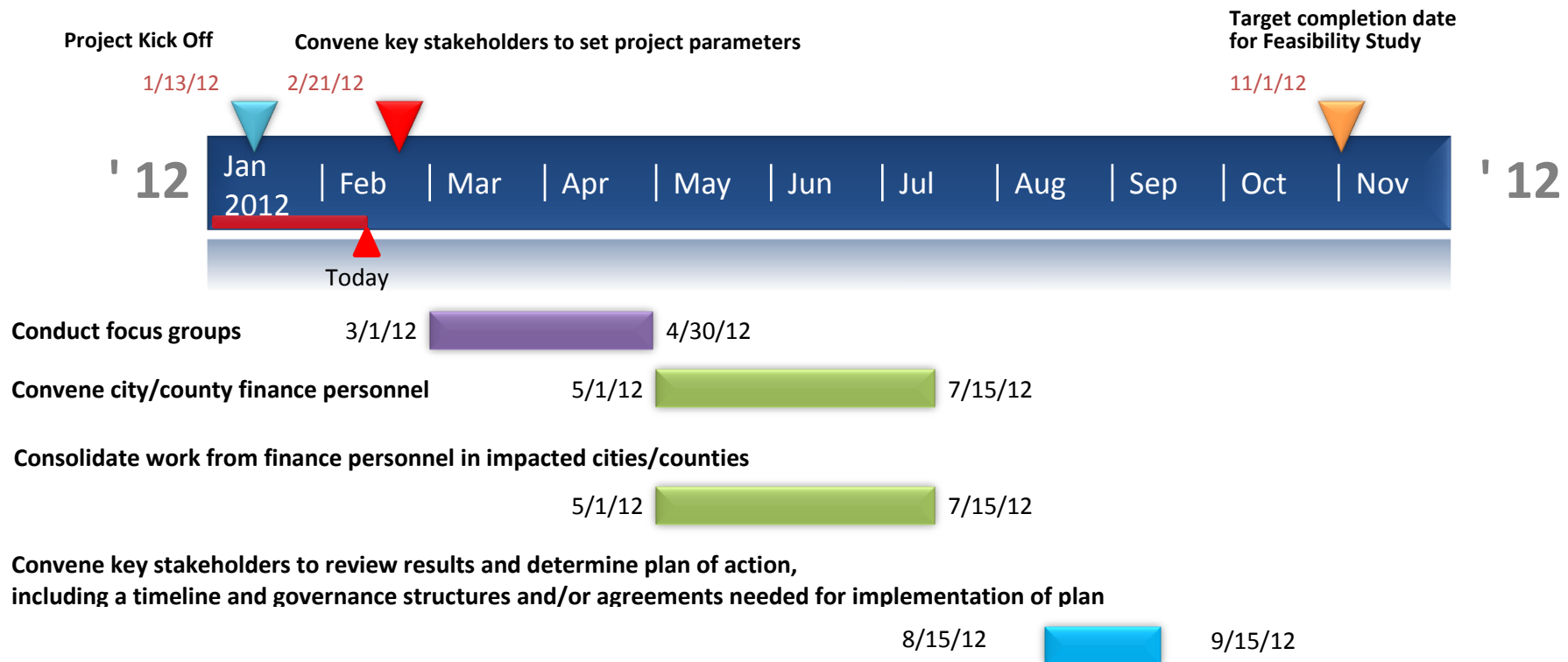
2011 Sarpy County 9-1-1 Calls (158,583)



2011 Douglas County 9-1-1 Calls (408,852)



Timeline for Douglas & Sarpy County 9-1-1 Regionalization Feasibility Study



**Shared Services Committee
9-1-1 Regionalization Study**

**February 21, 2012; 9:00 – 11:00 AM
Sarpy County Administration Building, Suite # 1126
1210 Golden Gate Drive, Papillion, NE**

AGENDA

- 1. Welcome and Introductions**
- 2. Background/Purpose of the Regionalization Feasibility Study**
- 3. Background Information about Regionalization**
- 4. Define Regionalization**
- 5. Identify Information needed for the Study and Process for Getting It**
- 6. Next Steps**

**Shared Services Committee
9-1-1 Regionalization Study**

**October 1, 2012; 9:00 – 11:00 AM
Sarpy County Administration Building, Suite # 1126
1210 Golden Gate Drive, Papillion, NE**

Minutes

1. Welcome & introductions – Denise Bulling, Public Policy Center

Denise Bulling reviewed the previous meeting and work completed since then. All meeting information is posted on the website at 911study.nebraska.edu. The Public Policy Center conducted a survey and several focus groups, organized a presentation from the Kansas City regionalization project, researched other regionalization projects, and continued work with the Law Enforcement, Fire/EMS, Technical, and Fiscal subcommittee.

2. Review of User Feedback Survey Results – Denise Bulling, Public Policy Center

602 respondents completed the 911 Regionalization User Feedback Survey. Following the survey, we held three focus groups with law enforcement and fire representatives. Of those completing the survey, 76% represented Law Enforcement and 22% represented Fire/EMS. The most popular option for regionalization was a single 911 call center. There was some uncertainty as to what regionalization means. Law Enforcement respondents prioritized getting good, accurate information into the field right away. Fire & EMS responders wanted calls handled most efficiently. Standardization was also important to the Fire/EMS responders. The Law Enforcement Subcommittee recommended that no matter the decision for regionalization, that it be coordinated with the state. They also wanted to ensure that law enforcement and end user input be formalized for future governance. Information should be streamlined. Respondents were concerned that politics, cost, and cooperation could be barriers to regionalization. Fire/EMS appear to be more concerned with resource sharing as they share resources frequently with automatic aid agreements for everyday calls. Fire is just now getting mobile data computers in their vehicles. The survey did not record the jurisdiction of each respondent, so certain jurisdictions may have more representation than others.

3. Technical Finance Committee Report – Mark DeKraai, Public Policy Center

The Technical and Fiscal Subcommittees worked to coordinate efforts in Dodge, Douglas, Sarpy, and Washington Counties. The group collected various information including FTEs, organization structure, training, union contracts, staff, call center volume, annual budgets, current equipment and current equipment costs, facilities, service contracts, and more. Mark DeKraai presented the draft report of these data from each county. One of the issues the committee continues to work on is the difference in measuring call volume by different types of calls. For example, Douglas County reports over 100,000 transfer calls and Sarpy County can enter warrants through their administration 911 line. While we can measure service-response calls, it is also important to track the number of calls into a 911 center.

The Technical and Fiscal Subcommittees requested the Shared Service Committee to agree on one or two options for which they would like the Subcommittees to pursue cost and technical specifications.

Then, the Subcommittees will present the final data and estimates at the December meeting. After analyzing the potential costs and benefits, the costs per county projected for the next 5-6 years can be figured. Then, the costs can be compared to the potential cost savings and future expenses. Measurable savings may take some time to see.

Potential Benefits	Linking Call Centers	One PSAP/ Multiple Dispatch	One Call Center	Potential Costs	Linking Call Centers	One PSAP/ Multiple Dispatch	One Call Center
<u>Potential</u> for improved quality of service (reduced misroutes/delays, performance increase)	Some	More	Most	Staff Transition (union contracts, pay & benefits, job descriptions, etc.)	Some	More	Most
<u>Potential</u> for Standardized Practice, Policies and Performance	Some	More	Most	Technology & Physical Changes (e.g., facilities)	Some	More	Most
<u>Potential</u> for More Coordination in Training, Technology, Purchasing	Some	More	Most	<u>Potential</u> Perception of Loss of Local Control	Some	More	Most
<u>Potential</u> Cost Savings (reduce duplicate equipment, staff maintenance, facilities etc.)	Some	More	Most	<u>Potential</u> Other Issues	Already doing this option to some extent	Disconnect between call taking and dispatch	Dispatchers may not understand local area Dark center backup

The Subcommittees presented three options:

Option 1: Linking Current Call Centers - Under this option, efforts would be made to improve coordination and linkages among the existing call centers. This option could include improved coordination of standards and training, joint purchasing efforts or improving coordination of tech support. This option would require the least change

Option 2: One PSAP/Multiple Dispatch - This option includes multiple dispatch centers but consolidation of one center to answer 911 calls. This option would require more personnel and facility changes than option one. Efforts would need to be made to ensure coordination between call takers and dispatchers.

Option 3: One Single Call Center - This option involves the creation of a single call center that answers all 911 calls for the area and does all the dispatching. This option requires the most personnel and equipment changes, but has the potential for many benefits. Additional training may be required to ensure dispatchers know local areas well enough to do a good job. Also, special efforts may be needed to have a functional back up call center in case something happens to the main center.

The different options will require different levels of integration of staffing like administrative needs, dispatchers, call takers, technical support, and purchasing. Potential barriers include combining staffs which exist under current contracts, wages, and job descriptions. Another potential barrier is the perceived loss of control or distrust of change. Governance is also an important issue.

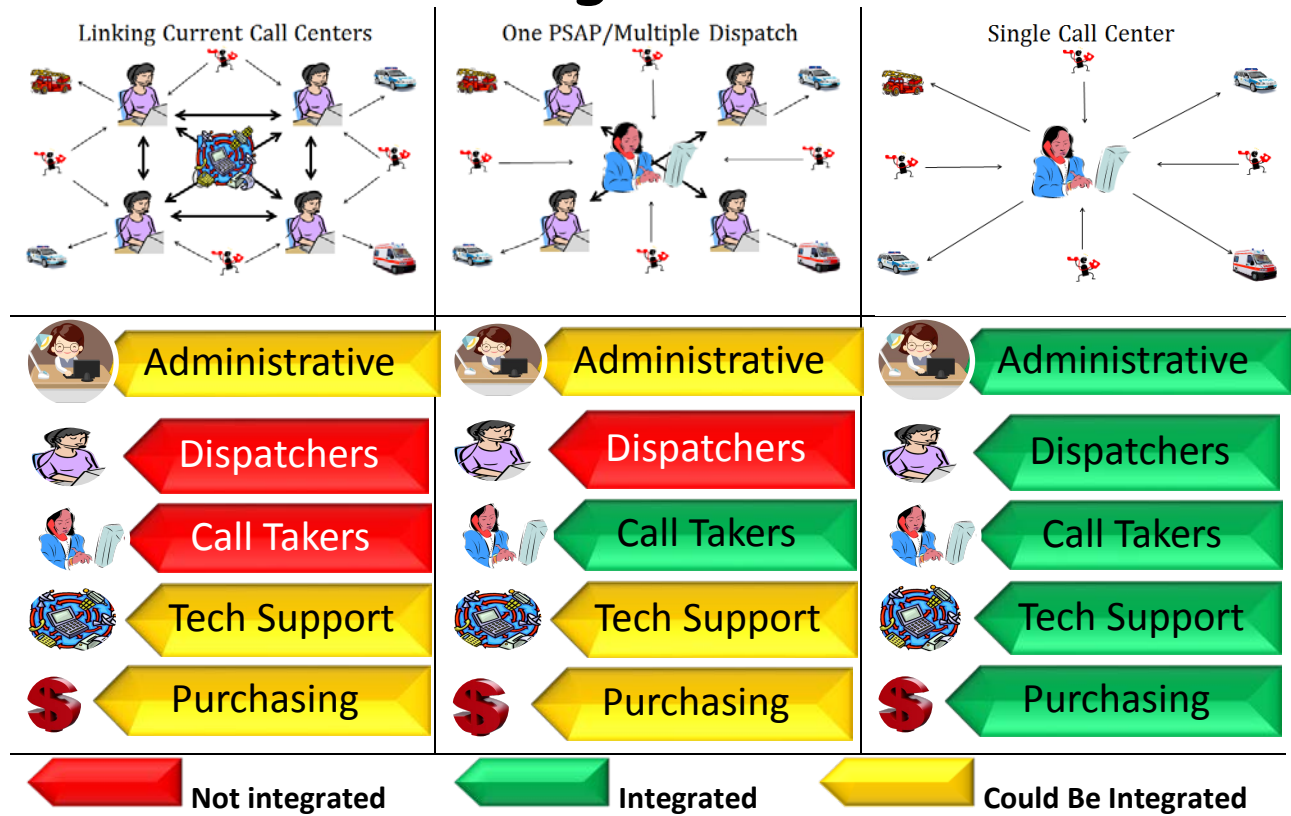
We will also need to consider how to structure a backup center; options include having two call center locations that could back up each other or having an agreement with a neighboring jurisdiction to provide back up. Next Generation 911 will be an important consideration in the future as our equipment will need to be upgraded to handle the new technology; combining resources may reduce the cost of new equipment. Nebraska currently has 63 PSAPS, so as the Omaha metropolitan area looks to regionalize, other areas of the state may follow suit. Rural support will be an important consideration.

The Shared Services Committee recommends finding out the technical and financial considerations for a single call center. The specifications should also measure approximate build out steps or increments to get to a single call center. The Committee recommended costing out a centralized purchasing office to use economies of scale as an intermediate step in the regionalization process.

4. Next steps

The Public Policy Center will facilitate the Fiscal and Technical Committee in completing the Feasibility Study and present to the Shared Service Committee. In December, the Committee will be asked to decide how to move forward including deciding on which option to pursue, governance, and infrastructure for finance and service delivery.

Staffing Variations



[illegible]

Tri-County 911 Shared Resources Initiative
Technical Finance Committee

Briefing Material for October 1, 2012

There are three activities designated for the Technical Finance Committee:

- Convene city/county finance/tech personnel to review information generated by focus groups
- Provide support to finance/tech personnel as they determine the cost/savings implications for their jurisdiction
- Report detailed potential costs/savings related to different scenarios for dispatch and 9-1-1 services for Counties

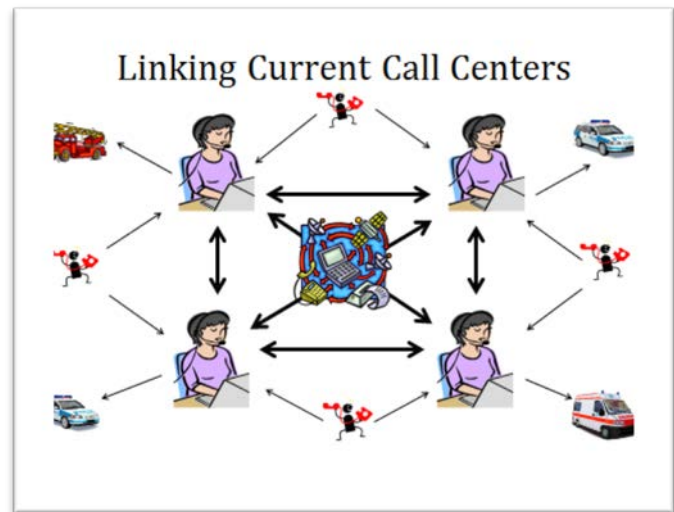
The Committee has been compiling critical information to help make decisions about sharing 9-1-1 resources for the Omaha metropolitan area. This information includes information for four counties: Dodge, Douglas, Sarpy, and Washington:

1. Staffing information for 911 personnel including FTE staff by position, organizational charts, salaries and benefits by position, job descriptions, training for each positions, and current union contracts
2. Call center volume for each county by types of calls and current level of service
3. Current equipment including phone, radio systems, computer systems, recording systems, data storage, connectivity, towers, and alerts systems, including period of service when the equipment will need to be replaced or upgraded
4. Current contracts including those for maintenance, and shared 911 services
5. Facilities disaster recovery plans
6. Operating budgets

We need your help in narrowing down potential options so the committee can cost out possible differences in the status quo from feasible possibilities. Ideally, we would identify one or two options that are feasible. Options are included on the following pages.

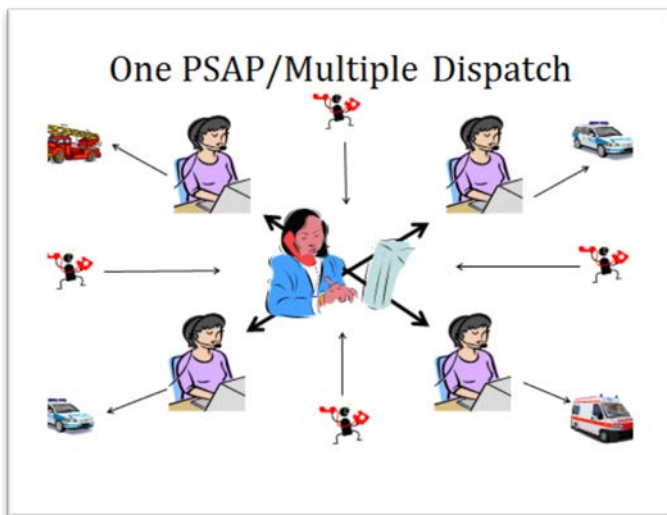
Option 1: Linking Current Call Centers

Under this option, efforts would be made to improve coordination and linkages among the existing call centers. This option could include improved coordination of standard and training, joint purchasing efforts or improving coordination of tech support. This option would require the least change



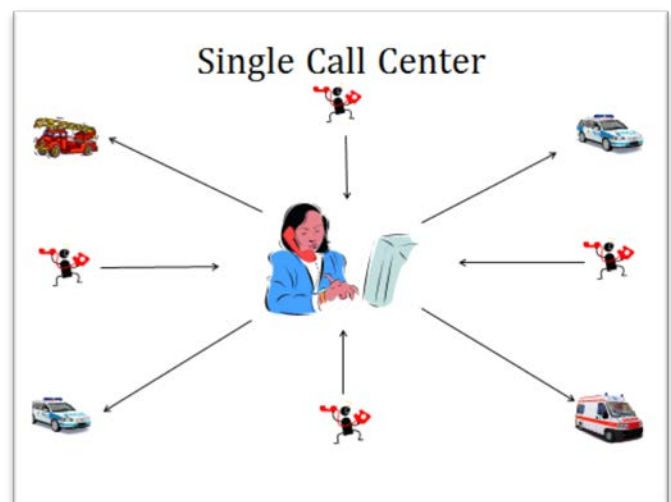
Option 2: One PSAP/Multiple Dispatch

This option includes multiple dispatch centers but consolidation of one center to answer 911 calls. This option would require more personnel and facility changes than option one. Efforts would need to be made to ensure coordination between call takers and dispatchers.



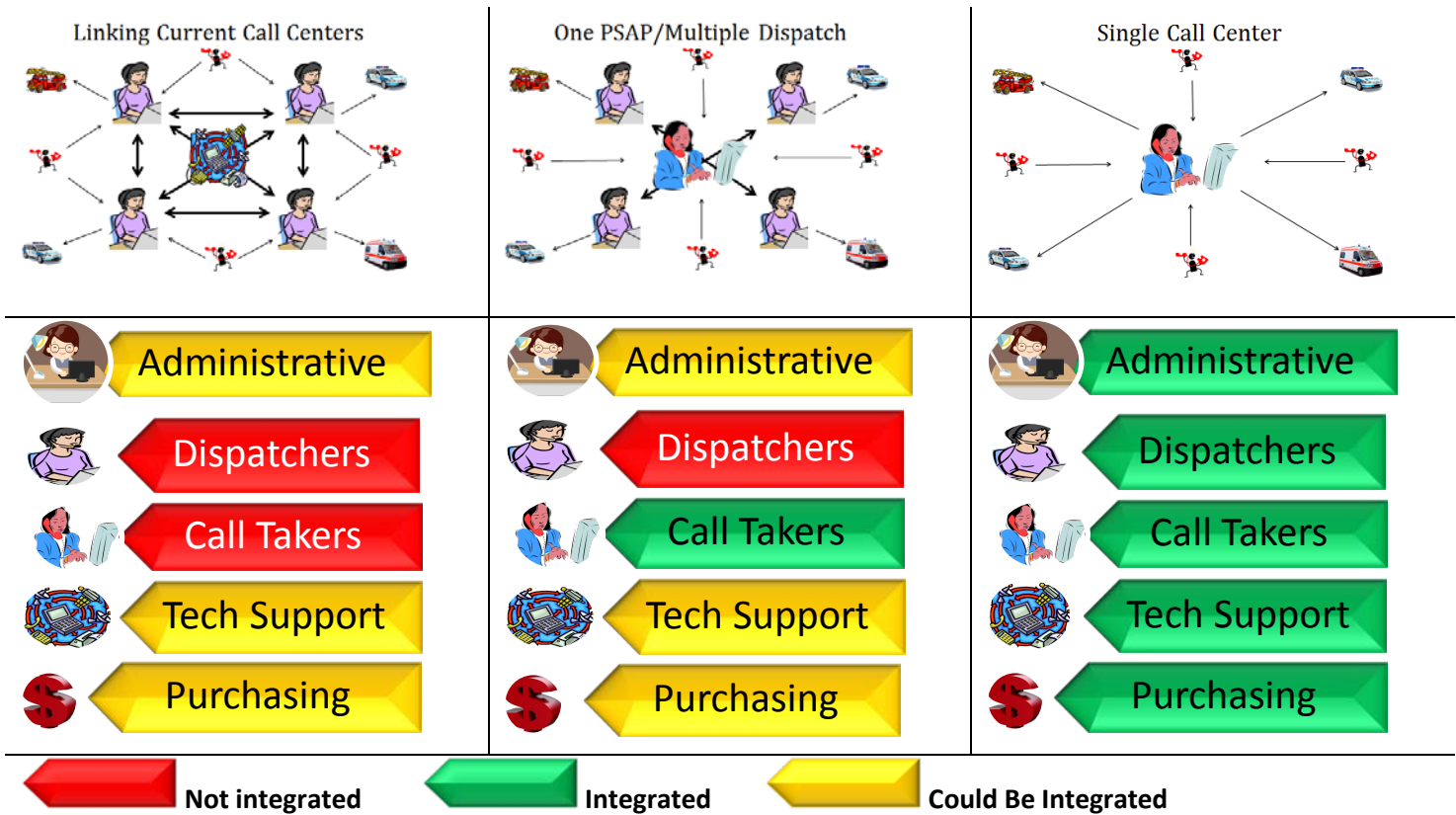
Option 3: One Single Call Center

This option involves the creation of a single call center that answers all 911 calls for the area and does all the dispatching. This option requires the most personnel and equipment changes, but has the potential for many benefits. Additional training may be required to ensure dispatchers know local areas well enough to do a good job. Also, special efforts may be needed to have a functional back up call center in case something happens to the main center.



For options 1 and 2, there are different staffing alternatives. For either option, staff could be shared to form a centralized purchasing authority to conduct joint purchases of equipment, share some level of tech support resources, or share administrative staff to coordinate functions such as training or development of standard operating procedures.

Staffing Variations



Option 1 has the least amount of change but also the least potential benefit. Options 2 and 3 require more change but have potential for more benefits.

Potential Benefits	Linking Call Centers	One PSAP/ Multiple Dispatch	One Call Center	Potential Costs	Linking Call Centers	One PSAP/ Multiple Dispatch	One Call Center
<u>Potential</u> for improved quality of service (reduced misroutes/ delays, performance increase)	Some	More	Most	Staff Transition (union contracts, pay & benefits, job descriptions, etc.)	Some	More	Most
<u>Potential</u> for Standardized Practice, Policies and Performance	Some	More	Most	Technology & Physical Changes (e.g., facilities)	Some	More	Most
<u>Potential</u> for More Coordination in Training, Technology, Purchasing	Some	More	Most	<u>Potential</u> Perception of Loss of Local Control	Some	More	Most
<u>Potential</u> Cost Savings (reduce duplicate equipment, staff maintenance, facilities etc.)	Some	More	Most	<u>Potential</u> Other Issues	Already doing this option to some extent	Disconnect between call taking and dispatch	Dispatchers may not understand local area Dark center backup

APPENDIX IV: PRESENTATION SLIDES FROM MARC 9-1-1 WEBINAR

MARC 9-1-1

A REGIONAL APPROACH TO 9-1-1

WHAT IS MARC?

Mid- America Regional Council

MARC is a nonprofit association of city and county governments and the metropolitan planning organization for the bistate Kansas City region

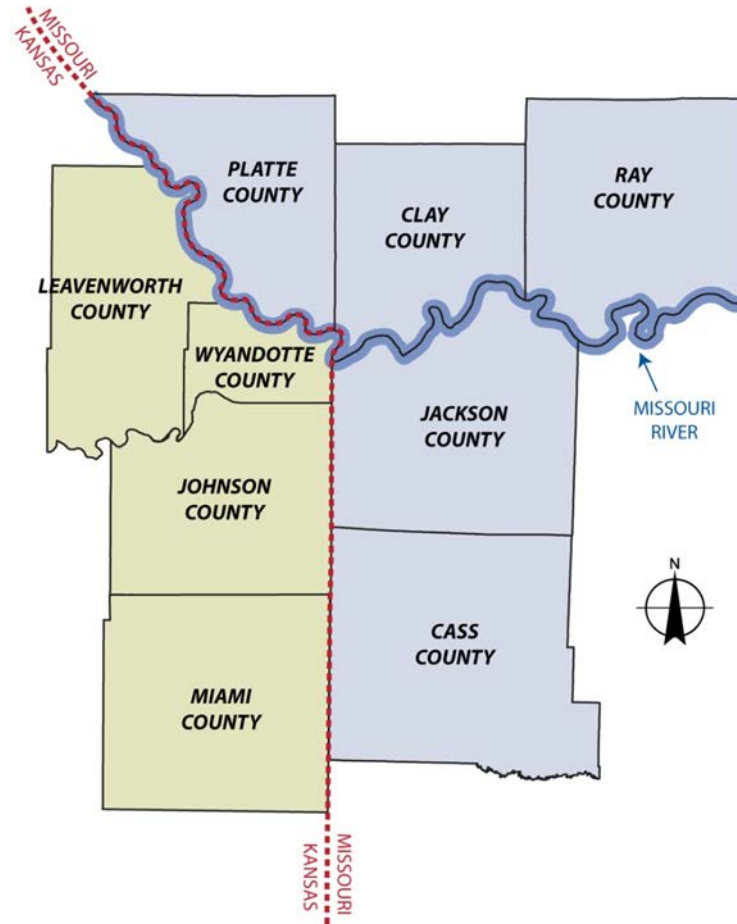
WHAT IS MARC?

2 STATES

9 COUNTIES

120 CITIES

4400 SQUARE MILES



MARC VISION

Provide citizens and public safety professionals with a high quality, financially secure and well maintained system of 9-1-1, interoperable radio and data communications services.

MARC 9-1-1 HISTORY

- **1973 Blue Springs begins 9-1-1 operations**
- **1983 MARC Board of Directors agrees to cooperate on 9-1-1 installation**
- **1993 first upgrade with agencies selecting equipment and MARC acting as purchasing agent**
- **1995 Interlocal agreements with counties**
- **2002 MARC purchased selective routers for wireless calls**
- **2003 Phase I & II implemented**
- **2007 Region wide upgrade**
- **2009 purchased first IP capable answering equipment**

GOVERNANCE

MARC Board of Directors

Elected officials

Public Safety Communications Board

Elected officials

Police Chiefs/Sheriffs/Fire/ EMS

PSAP managers

Users committee Co-chairs

Users Committee

Technical Committee

MARC PSAPS

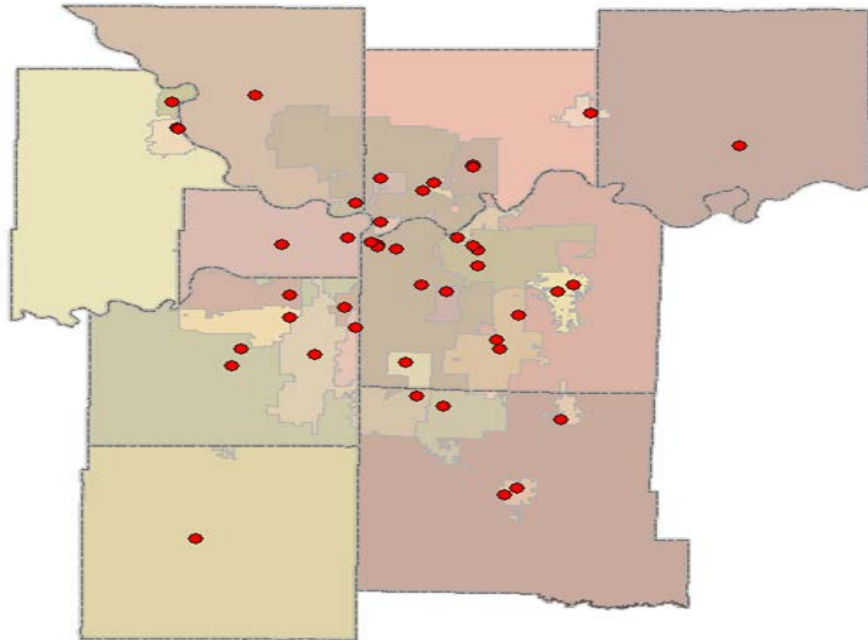
34 Primary

7 Secondary

5 Back up

**1 Training
center**

**231 Answering
positions**



ACTIVITY

➤ 2011 9-1-1 Calls

➤ VoIP	38,188
➤ Wireline	397,589
➤ Wireless	1,185,183

73% of 9-1-1 calls are wireless

ACTIVITY

➤ 9-1-1 Calls	1,620,959
➤ Administrative calls	2,387,511
➤ TOTAL	4,008,470

MARC'S ROLE

- **Coordination**
- **Single point of contact**

MARC PUBLIC SAFETY

➤ **PURCHASING**

- 9-1-1 premise equipment

➤ **MAINTENANCE**

- 24/7 emergency
- Routine

➤ **TRAINING**

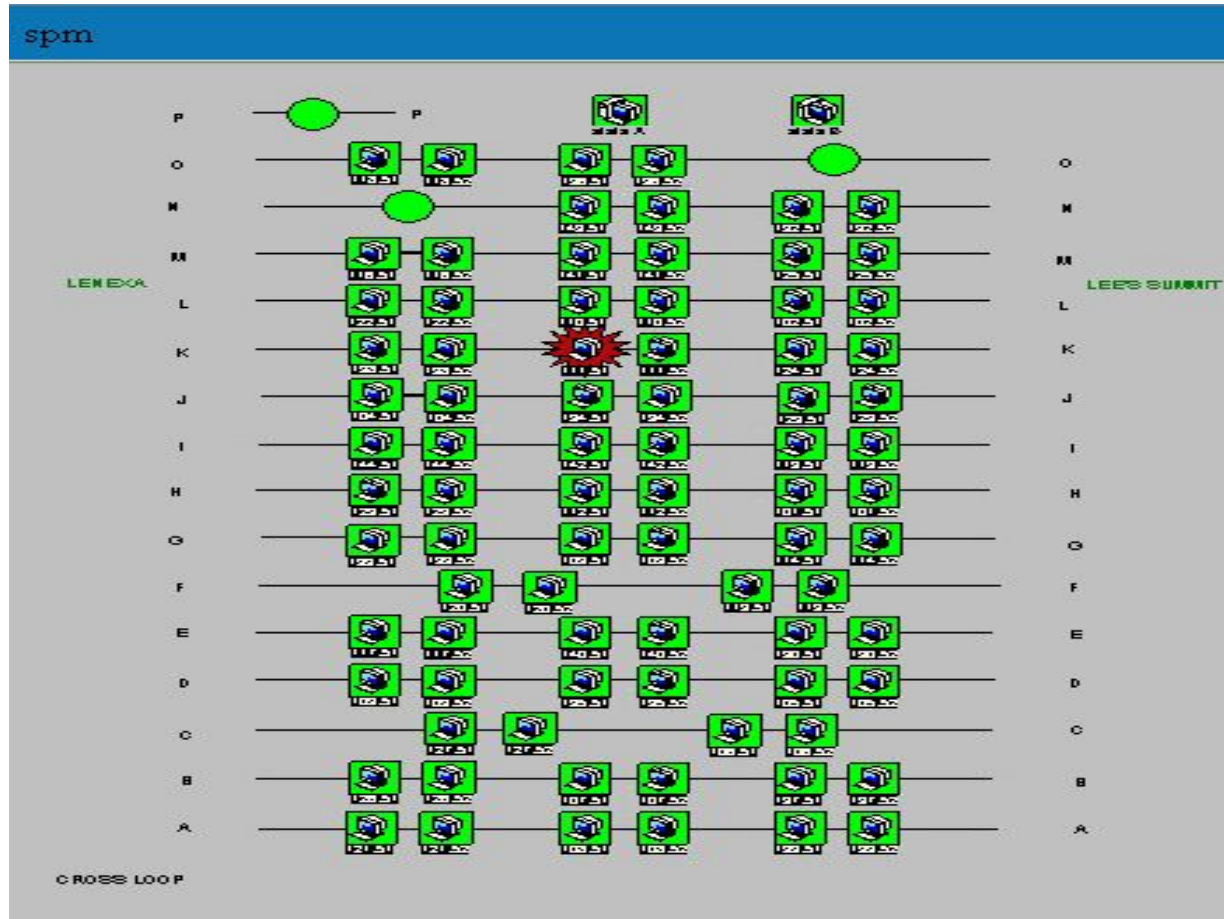
- Consortium
- State certification

MARC PUBLIC SAFETY

➤ **NETWORK**

- Network management
- CAMA trunks
- Wireless trunks
- Billing

MONITORING

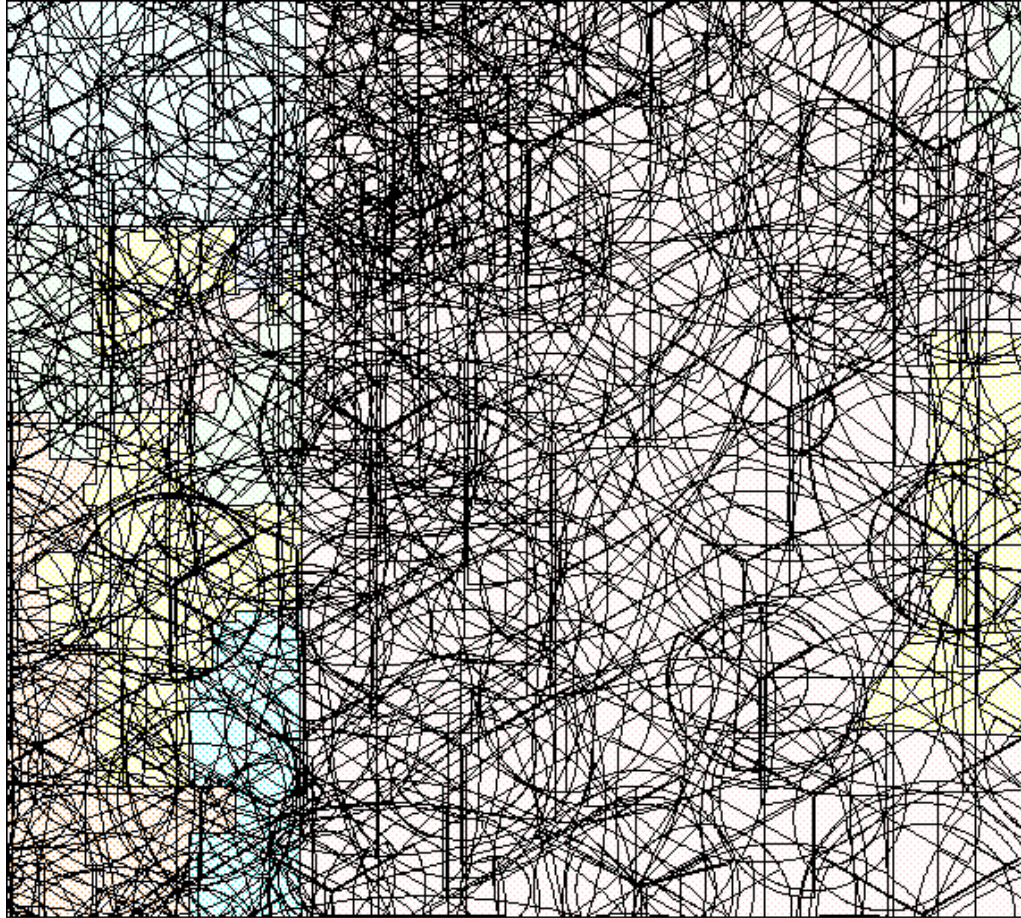


MARC PUBLIC SAFETY

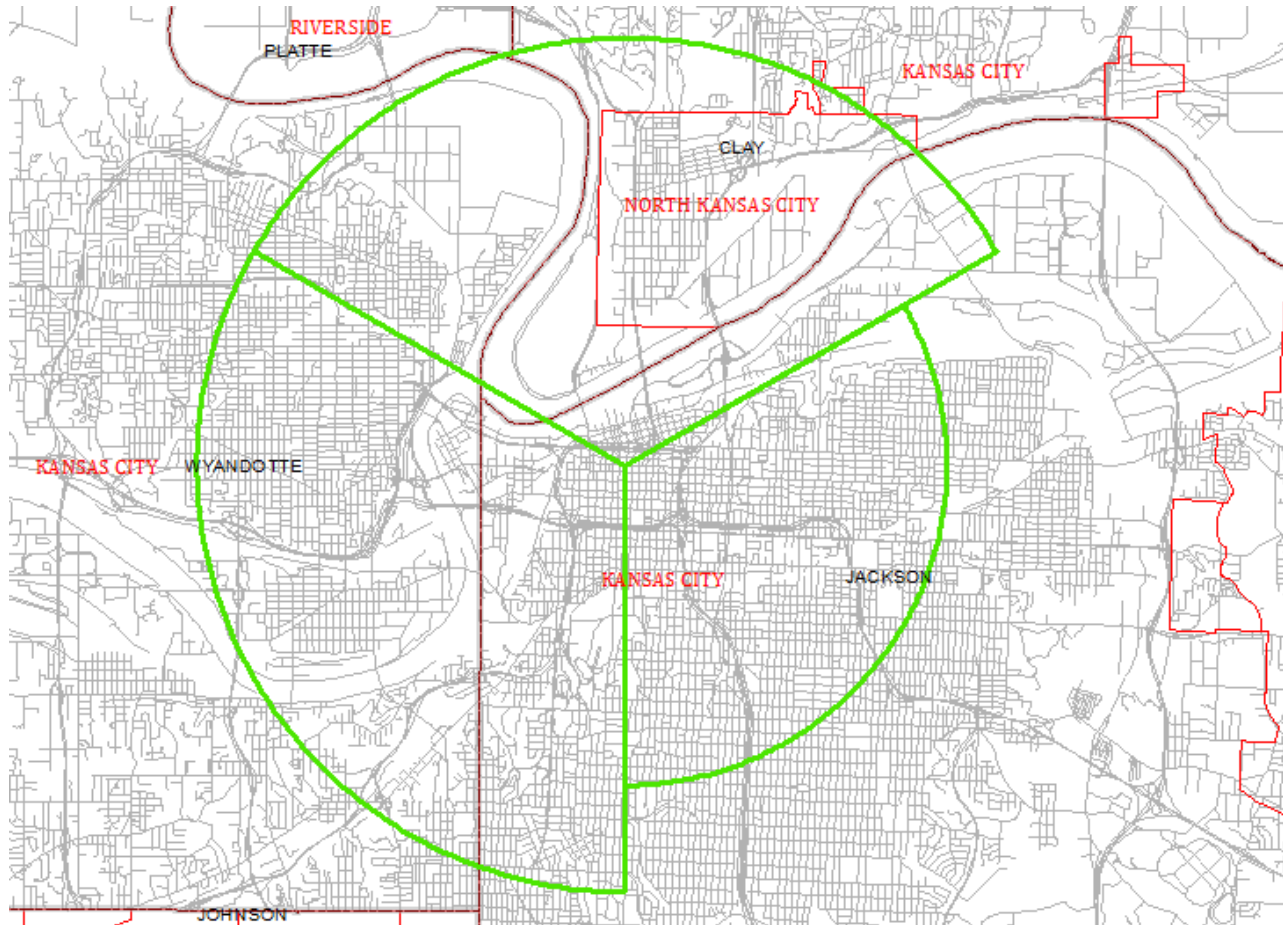
➤ **Call Routing**

- Wireline and back up
- Cell sites
- Testing
- Boundary changes
- Wireless accuracy testing

6100 CELL SECTORS



CELL TOWER ROUTING



MARC PUBLIC SAFETY

➤ **CONTRACTS**

- Language Line
- Maintenance
- Mapping software
- Telco agreements

➤ **GIS**

- Maintain digital maps for public safety
- Update 9-1-1 maps for PSAP's

➤ **DATABASE**

- Monitor database for accuracy

➤ **ERROR REPORTS**

- Handle all error reports for PSAP's

➤ **STATISTICS**

- Call volume
- Trunk usage
- Postion usage

BENEFITS

➤ **Redundancy**

- PSAPs can provide back up services short and long term
- 2 networks: wireline and wireless

➤ **Improved service to citizens**

- Transferred calls have all ANI/ALI and Phase II info

➤ **Cost effective**

- Duplicate equipment eliminated

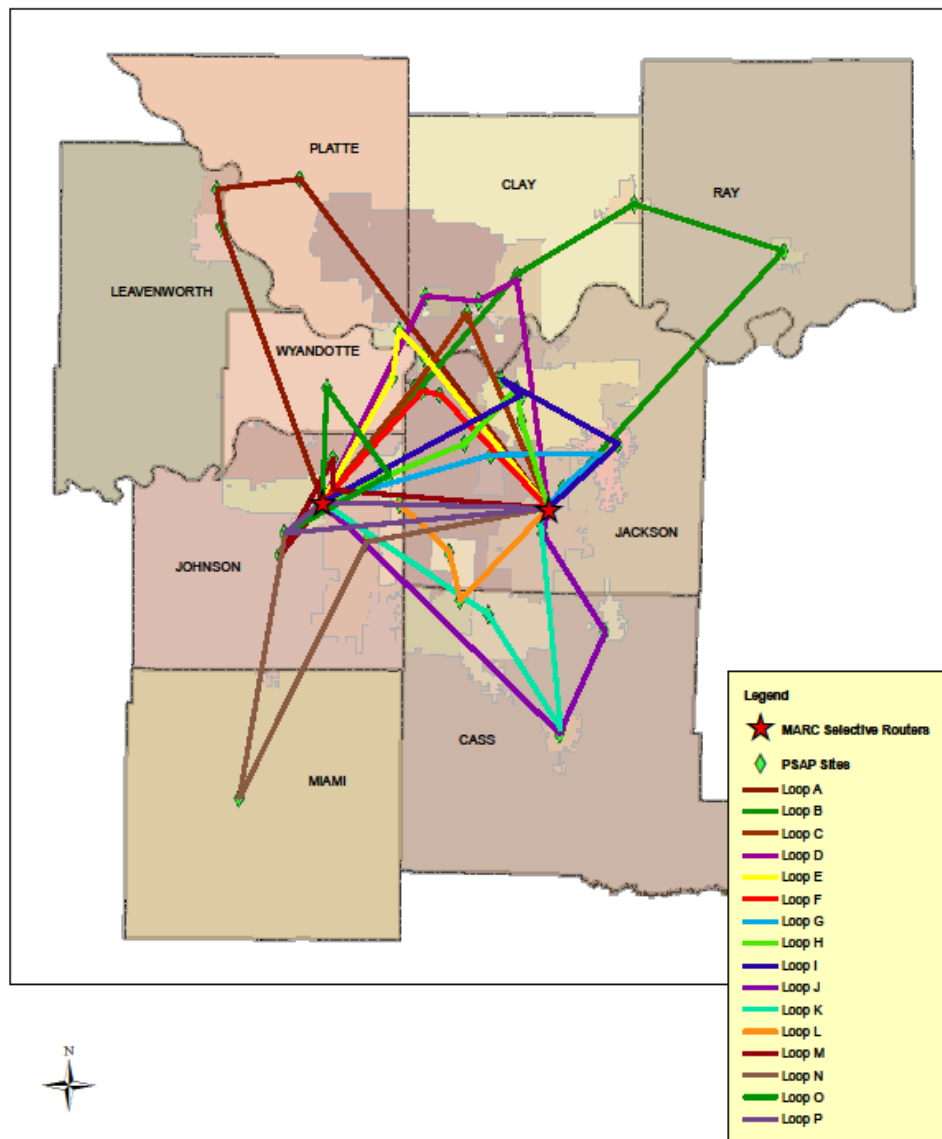
➤ **Ease of administration**

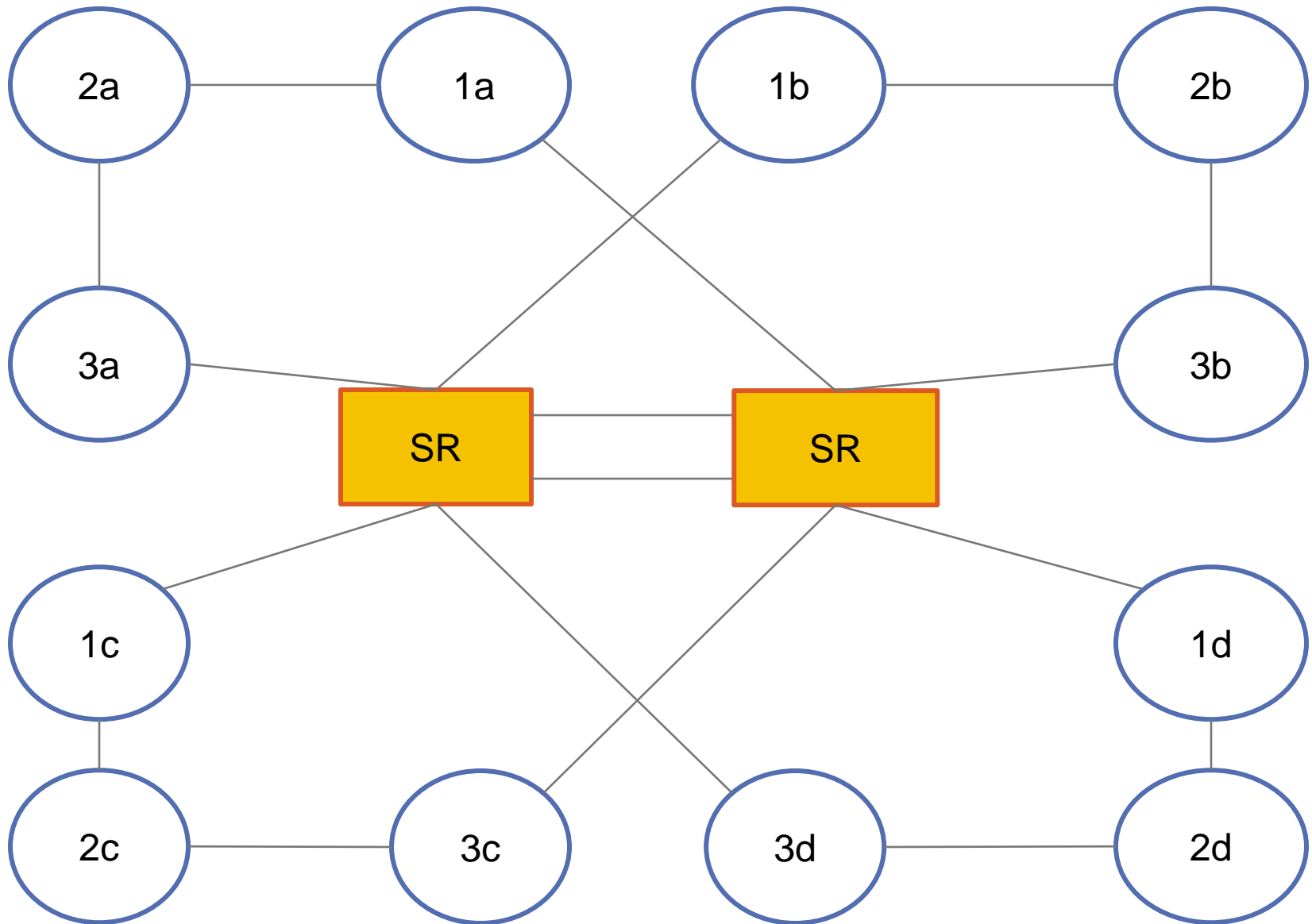
- Coordination reduces tasks and workload at PSAP
- Regional guidelines

➤ **Shared knowledge**

- User committee
- Training for over 600 telecommunicators

Regional 9-1-1 Network T1 Loops





BENEFITS

➤ **Redundancy**

- PSAPs can provide back up services short and long term
- 2 networks: wireline and wireless

➤ **Improved service to citizens**

- Transferred calls have all ANI/ALI and Phase II info

➤ **Cost effective**

- Duplicate equipment eliminated

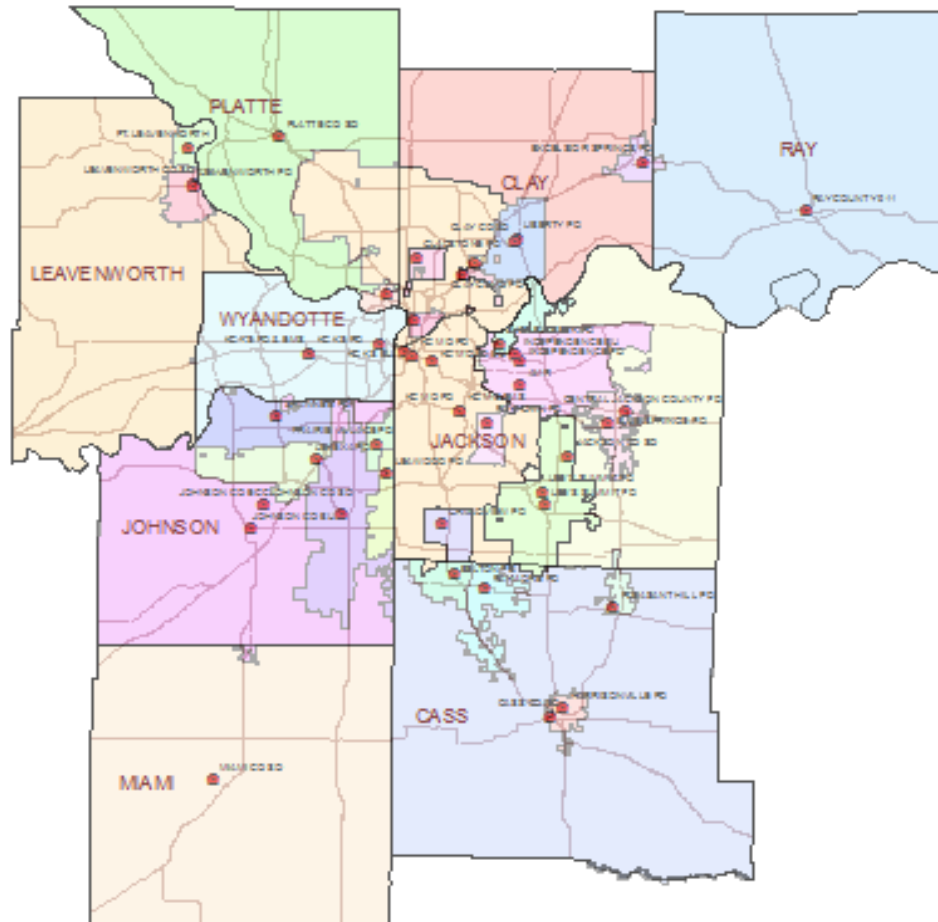
➤ **Ease of administration**

- Coordination reduces tasks and workload at PSAP
- Regional guidelines

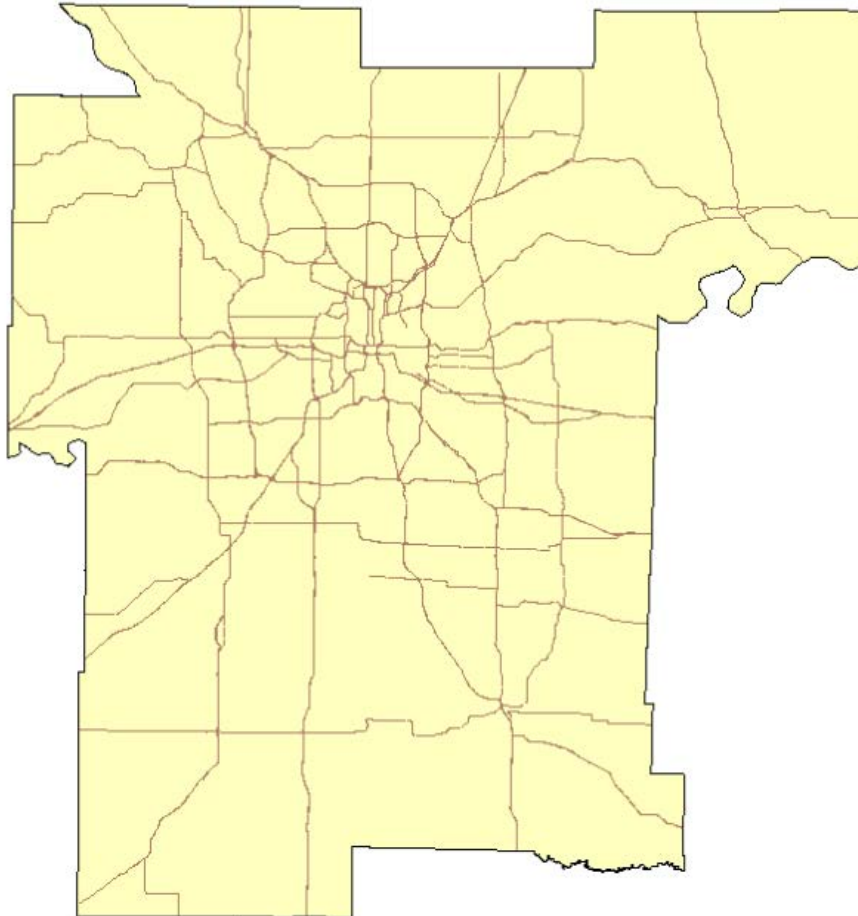
➤ **Shared knowledge**

- User committee
- Training for over 600 telecommunicators

PSAP MAP



PSAP MAP



BENEFITS

➤ **Redundancy**

- PSAPs can provide back up services short and long term
- 2 networks: wireline and wireless

➤ **Improved service to citizens**

- Transferred calls have all ANI/ALI and Phase II info

➤ **Cost effective**

- Duplicate equipment eliminated

➤ **Ease of administration**

- Coordination reduces tasks and workload at PSAP
- Regional guidelines

➤ **Shared knowledge**

- Users Committee
- Training for over 600 telecommunicators

UPGRADE CHANGES

- **PSCB approved an upgrade plan that will be ongoing**
- **42 controllers will be replaced by 6 Patriot servers**
- **PSAP's will be connected to Patriot servers**

SHARING IS GOOD

➤ COST SHARING PERCENTAGES

➤ Population based (minus prison pop.)		
➤ Cass	99,478	5.29%
➤ Clay	211,013	11.22%
➤ Ray	23,336	1.24%
➤ Platte	89,322	4.75%
➤ Jackson	674,158	35.85%
➤ Wyandotte	157,505	8.38%
➤ Leavenworth	70,345	3.74%
➤ Johnson	544,179	28.94%
➤ Miami	32,787	

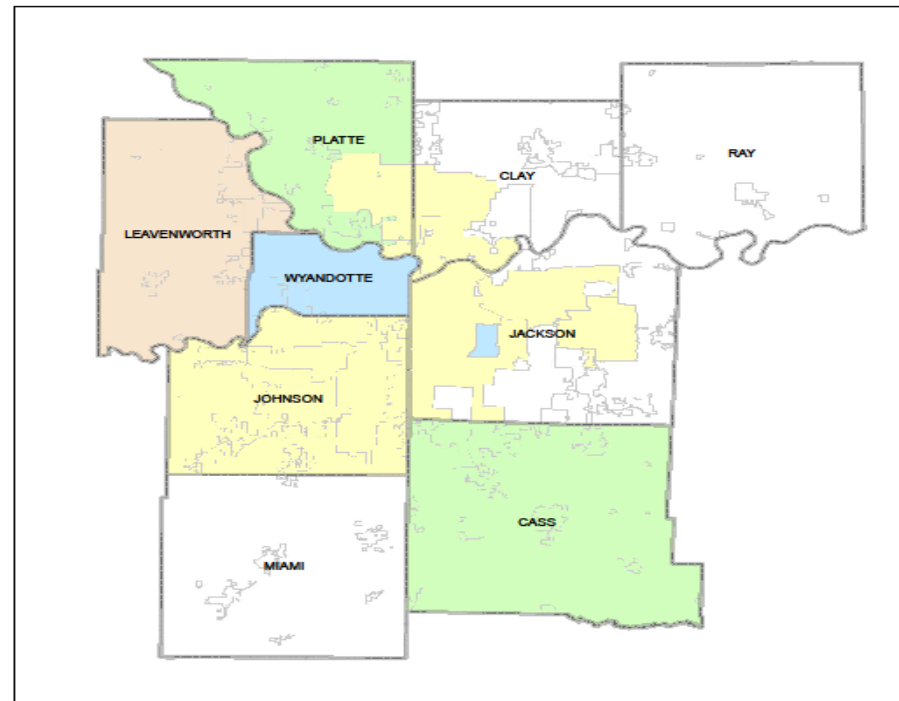
SHARING IS GOOD

[illegible]

SHARING IS GOOD

Metropolitan Area Regional Radio System

MARRS Radio Project Participation



12/12/11

Legend

- Joined KS Statewide System
- Exploring Options
- Negotiations
- Implemented or Pending Contracts

MARRS

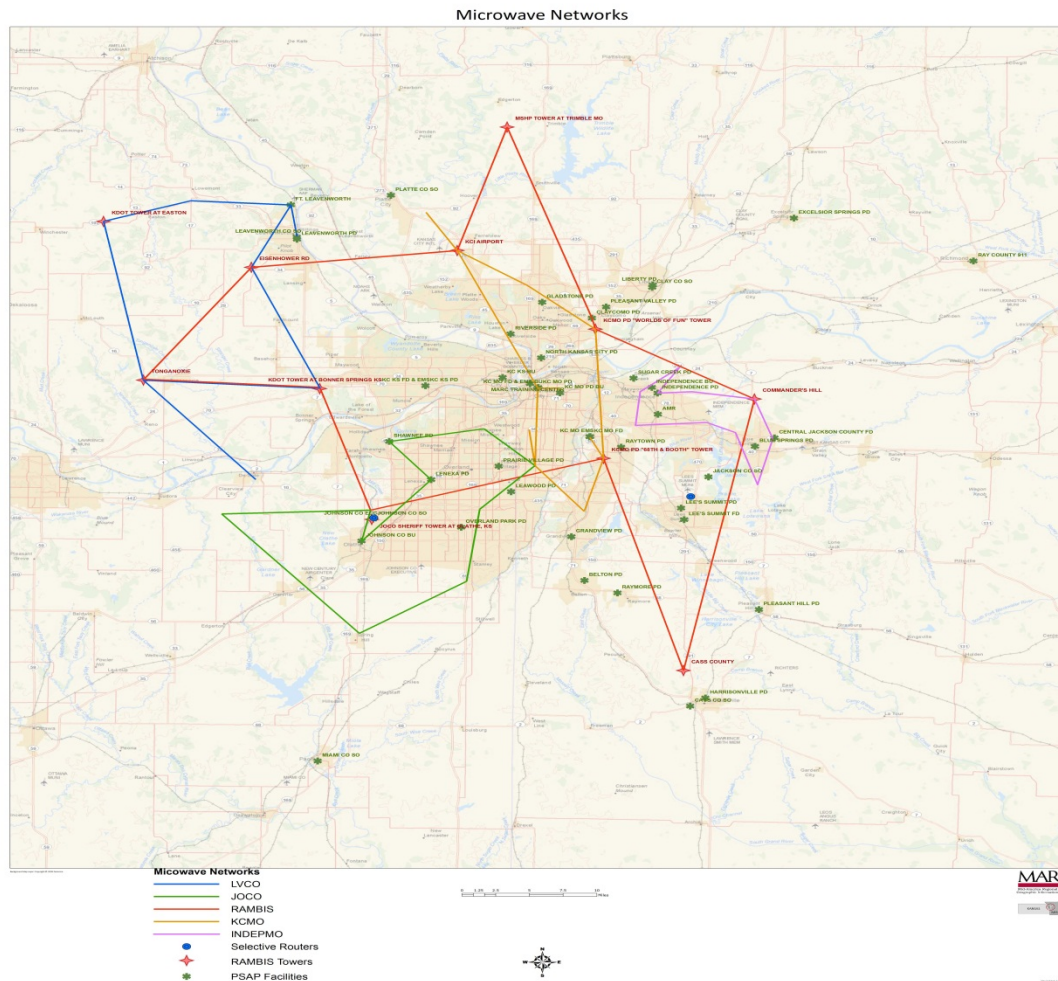
➤ **HOST AGENCIES**

- Kansas City, Mo.
- Johnson Co. Ks.
 - User agencies
- Prime site agencies
 - Independence
 - Platte County

MARRS

- **Management Council**
- **User Committee**
- **Technical Committee**
- **SOP Committee**
- **Maintenance Costs**

MICROWAVE MAP



CONSOLIDATION

CO-LOCATED

SHARING THE FACILITIES

CONSOLIDATED

MERGE SEVERAL INTO ONE

VIRTUAL CONSOLIDATION

SHARE NETWORK INFRASTRUCTURE

PSAP COMPONENTS

- **Personnel**
- **9-1-1**
- **Radio system**
- **Computer Aided Dispatch**
- **Facilities**

CO- LOCATED CONSOLIDATED

- **Leavenworth Police Dept. and Leavenworth County Sheriff**
- **Johnson County ECC and Johnson County Sheriff**

- **Johnson County Sheriff and Olathe Police**
 - 9-1-1
 - CAD
 - Facilities
 - Radio
 - Personnel

NEXT GEN

911?



E-MAIL candorville@gmail.com TWITTER.com/CANDORVILLE

www.Candorville.com



WWW.CANDORVILLE.COM
©2010 Darrin Bell / Dist. by WPG



©Darrin Bell/Dist. by WPG



E-MAIL candorville@gmail.com TWITTER.com/CANDORVILLE

www.Candorville.com



WWW.CANDORVILLE.COM
©2010 Darrin Bell / Dist. by WPG



©Darrin Bell/Dist. by WPG

APPENDIX V: OMAHA METROPOLITAN AREA 9-1-1 REGIONALIZATION USER FEEDBACK SURVEY RESULTS

APPENDIX VI: TECHNICAL/FINANCE SUBCOMMITTEE REPORT

Tri-County 9-1-1 Shared Resources
Technical/Finance Committee Report
Estimated Cost of Shared Services 9-1-1 Center for Tri-County Area

The Technical/Finance Committee was charged with estimating the costs associated with a shared services 9-1-1 center for the Counties of Douglas, Sarpy, and Washington. To accomplish this task, the Committee examined context including timelines and assumptions, staffing for the call center, projected costs for the center, potential cost savings and net costs for developing the 9-1-1 center, and a potential cost allocation method for the three counties.

Context

The Technical/Finance Committee considered time frames for implementation of the single 9-1-1 Call and Dispatch Center. The Committee determined a reasonable timeframe for completion of the single center for Douglas, Sarpy and Washington Counties would be 8-10 years. However, interim steps could be accomplished in a 12 to 18 month framework that would significantly move the counties toward the ultimate goal of a single 9-1-1 Call and Dispatch Center. The consensus of the committee is that within 18 months a single 9-1-1 Call Taking Center could be established while maintaining separate dispatch centers in each county (hub and spoke model).

Because of many factors that could impact 9-1-1 centers over the next decade (e.g., implementation of Next Generation 9-1-1 Systems, improved broadband technology, changing in the fiscal climate and potential funding opportunities, and possible state executive and legislative policy changes), Committee members determined that projecting costs for the single 9-1-1 Call and Dispatch Center across 10 years would be difficult. There will likely be a need for significant capital improvements and major equipment purchases that cannot be anticipated at this time because of advances in 9-1-1 technology during this extended time period. Therefore, more realistic estimates can be made for the interim step of implementing the single 9-1-1 call center with multiple dispatch centers.

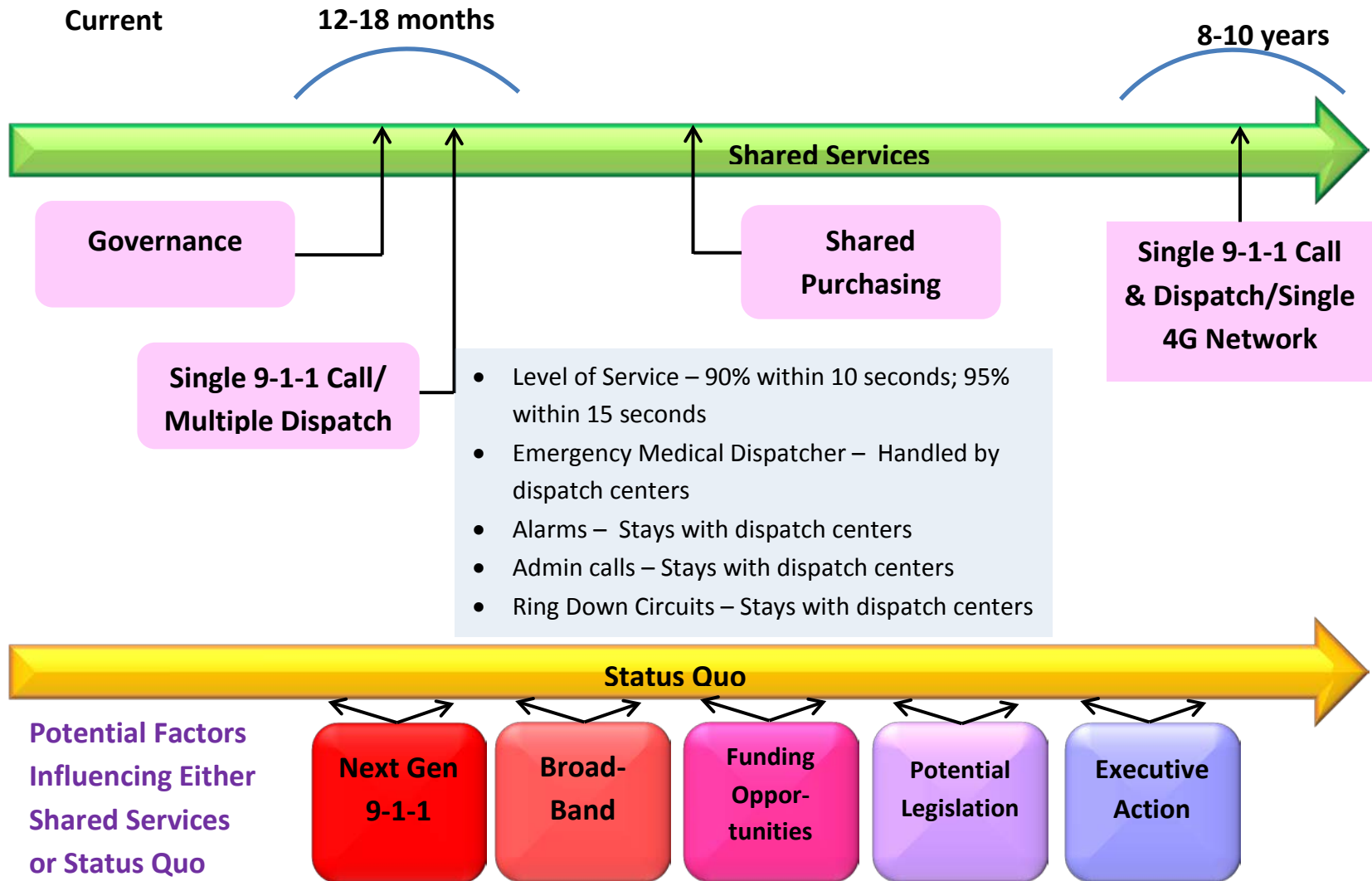
The first step in this process was to make decisions/recommendations about level of service and what would be included in the 9-1-1 Call Center. Members of the Committee agreed that cost estimates would be based on the following assumptions:

1. Level of service would be 90% of 9-1-1 calls will be answered within 10 seconds and 95% of calls will be answered within 15 seconds. This level of service is achievable and provides a common standard across the three counties.
2. The 9-1-1 Call Center would not include alarm companies; these would stay at the dispatch centers
3. Administrative calls and ring-down circuits would stay at the dispatch centers

4. Emergency medical dispatchers would be handled by the respective dispatch centers.
5. The functions of a back-up 9-1-1 center in a situation in which the primary 9-1-1 call center goes down could be handled by the dispatch centers or the current back-up center being developed across the four counties of Douglas, Pottawattamie, Sarpy, and Washington.
6. We assume for the short term, the 9-1-1 call center would be located at the Douglas County 9-1-1 Center
7. Each county would keep its own surcharge, which could be used to help pay its share of the 9-1-1 call center costs
8. We assume 9-1-1 call volume for the tri-county area will remain approximately the same over the next five years.

Figure 1 provides a graphic with the Technical/Finance Committee timelines and recommendations for level of service and components that would stay with the individual dispatch centers.

Figure 1: Tri-County 9-1-1 Proposed Implementation Timeline



Determining staffing for a single shared 9-1-1 Call Center with Multiple Dispatch Centers

To determine the number of staff required to operate the Shared 9-1-1 Call Center with Multiple Dispatch (hereinafter referred to as Shared 9-1-1 Call Center), the committee first examined the 9-1-1 call volume of the three counties. Table 1 provides the estimates of current and projected calls for the period January 2012 through December 2012.

Table 1: Total 9-1-1 calls received by county – January 2012 through December 2012

County	Calculation Method	9-1-1 Call Volume	Percent of Total
Douglas	338,852 (1/1/12-11/15/12) X 24/21	387,259	87.10%
Sarpy	2012 Actual	52,273	11.76%
Washington	2012 Actual	5,064	1.14%
Total		444,596	100.00%

Note: 5 or 10 9-1-1 calls may generate one 9-1-1 call for service. E.g. for accident.

To determine the number of staff required to handle this call volume, we rely on a method by Michael Lafond (2012) using a standard statistical model for calculating the number of staff required at 9-1-1 centers to meet the standard for answering 90% of calls within 10 seconds. The first step in this calculation is to determine the length of call of the average 9-1-1 call. Since Douglas County handles 87% of the calls, it is reasonable to use the average times from the Douglas County 9-1-1 Center. For the period January 1, 2012 through November 15, 2012, the average Douglas County 9-1-1 call (process time) lasted 1 minute 23 seconds.

The second step in this process is to determine the number of calls at peak hours. To do this, we separated call volume by shifts. Again, we used the actual call volume by hour for Douglas County, but added 12.89% to account for the estimated increase in call volume from Sarpy and Washington Counties. We examined hourly call volume for each shift for the period January 1, 2012 through November 15, 2012. To account for call spikes, we used a 95% cut off for hourly call volume; in other words, we used the point at which 95% of the time, the call volume was at or below this volume. Table 2 presented the anticipated peak call volume by shift.

Table 2: Projected maximum call volume by shift per hour

Shift	Douglas County Call Volume at 95% Per Hour	Estimated Sarpy and Washington County Calls	Total Estimated Peak Call Volume Per Hour
2300-0700	81	10	91
0700-1500	124	16	140
1500-2300	134	17	151

To determine the number of required staff for each shift to answer 90% of calls within 10 seconds, we use a table from the Lafond statistical model reproduced by Dispatch Magazine (2012). Based on the model, the number of call takers to handle calls for each shift at this level of service should be 6 for 2300-0700 shift, 8 for 0700-1500 shift, and 9 for 1500-2300 shift. To determine the number of individuals required to provide this level of staffing for each shift, we use the industry standard of a 1.7 multiplier to staff each position 365 days per year (see Dispatch, 2012). Hence, based on the model, total staff required are about 10 for 2300-0700 shift, 14 for 0700-1500 shift, and 15 for 1500-2300 shift. The Douglas County 9-1-1 Center currently has staffing at a much lower level than the Lafond model would recommend. In part this difference may be attributed to Douglas County using a 1.55 multiplier to staff each position, rather than 1.7. Presumably, the Douglas County 9-1-1 Center has developed other staffing efficiencies that allow it to maintain a high level of performance with lower levels of staffing. With its current staffing levels, Douglas County falls slightly below the level of service goal of answering 90% of calls within 10 seconds. Table 3 shows the number of calls answered within 10 seconds from January 1, 2012 through November 15, 2012; about 88% of calls were answered within 10 seconds.

Table 3: Answer time by month at Douglas County 9-1-1 Center

Month	Total	0-0 sec	.001-10 sec	# w/in 10 sec
January	28977	539	25838	26377
February	25573	441	22974	23415
March	31841	418	27387	27805
April	31271	529	27118	27647
May	35507	491	30250	30741
June	35118	357	29682	30039
July	35955	259	31047	31306
August	34864	237	29673	29910
Sept	33063	185	28688	28873
Oct	31966	202	28626	28828
Nov	14717	129	13082	13211
Total	338852			298152
% of Calls Answered w/in 10 sec		0.879888565		

Table 4 shows the current level of staffing for the Douglas County 9-1-1 Center, the staffing level suggested by the Lafond statistical model to handle all 9-1-1 calls from the three counties, and the level of staffing suggested by Douglas County to handle the increased call volume from the three counties. Because the Douglas County recommended staffing for the tri-county area enhances staffing for the volume of calls (call volume increases by 12.89% while staffing

increases by 29.4%), it is likely that at this staffing level, the level of service will more likely meet or exceed 90% of calls answered within 10 seconds.

Table 4: Staff per shift and total staff required 365 days per year for current Douglas County 9-1-1 Center call volume, for tri-county call volume based on Lafond Model, and tri-county call volume based on Douglas County proposed staffing.

Shift	Current Douglas County Staffing		Lafond Model for Tri-County Call Volume		Douglas County Proposal for Shared 9-1-1 Call Center	
	Staff/Shift	Total Staff	Staff/Shift	Total Staff	Staff/Shift	Total Staff*
2300-0700	3	4.65	6	10.2	3	4.8
0700-1500	4	6.2	8	13.6	5	8.0
1500-2300	4	6.2	9	15.3	5	9.6
Total		17		39		21

*A multiplier of 1.6 is used for future Douglas County Staffing Projections

Determining Costs

Staffing costs are based on the four additional FTE needed to staff the shared call center using salaries for Douglas County. We do not assume all new call takers would be new hires since some staff may be shifted from other participating counties; therefore, we use the average of current Douglas County call takers rather than starting salaries. In addition to base salaries, we added additional compensation for shift differential, longevity incentives, overtime and holiday pay; we used an average of 10.9% of base salary for pay differential. For health and life insurance, we used the average monthly per call taker cost for the time period July 1, 2012 through December 2012. For FICA, we used the standard county portion of 7.65% of total salary, and for pension, we used the county portion of 8.5% of base salary.

Additional costs include \$175 per employee for uniform costs. It is anticipated that the Douglas County 9-1-1 Center can handle additional call volume with no additional equipment or capital investments. Because of partnership and collaboration in purchasing and sharing equipment in recent years, the shared call center can be achieved without major investments in equipment and infrastructure. Estimated costs are shown in Table 5

Table 5: Annual Costs for Four Additional Staff

Cost Category	Calculation	Amount
Base Salaries	Average annual base salary of operators based on projected salaries January 1, 2013 – December 31, 2013 X 4 employees	\$168,376
Pay Differential (shift, longevity, overtime, holiday)	10.9% of base salaries based on July 1, 2012 through December 31, 2012 projections	\$18,353
Total Salary		\$186,729
Health/Life Insurance	Average monthly county contribution for operators based on July 1, 2012 through December, 31, 2012 X 12 months X 4 Employees	\$48,720
FICA	7.65% of total salary (county portion)	\$14,285
Pension	8.5% of base salary (county portion)	\$15,872
Total Benefits		\$78,877
Salary and Benefits		\$265,606
Uniforms	\$175 per employee	\$700
Total Costs		\$266,306

We estimate a 4% increase in personnel costs per year. Table 6 shows costs for the shared 9-1-1 center over the next five years.

Table 6: Shared 9-1-1 call center projected additional costs

Fiscal Year	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
Personnel	\$0	\$0	\$287,279	\$298,771	\$310,721	\$323,150
Other	\$0	\$0	\$700	\$700	\$700	\$700
Total	\$0	\$0	\$287,979	\$299,471	\$311,421	\$323,850

Cost Difference

It is anticipated that the Shared 9-1-1 Call Center will not result in any personnel or other savings for Washington County over the next six years. The following are the estimates for potential cost savings for Sarpy County. It is estimated that Sarpy County could reduce call center staff by four positions when the shared call center is operational. These positions could be reduced through attrition or by transfer to the shared call center. The estimated cost savings are shown in Table 7.

Table 7: Personnel cost savings with shared 9-1-1 call center

Cost Category	Calculation	Amount
Base Salaries	Based on FY 2012 request for four dispatcher	\$133,468
Pay Differential (shift, longevity, overtime, holiday)	Overtime/holiday allocation by average employee by four employees	\$24,364
Total Salary		\$157,832
Health/Life Insurance	Insurance allocation by average employee by four employees	\$50,611
FICA	7.65% of total salary (county portion)	\$12,074
Pension	6.75% of total salary (county portion)	\$10,654
Total Benefits		\$73,339
Salary and Benefits		\$231,171
Uniforms	\$660 X 4	\$2,640
Salary and Benefits and Uniforms		\$233,811

Sarpy County anticipates with the shared 9-1-1 call center, that it can avoid Viper maintenance costs of about \$30,000 per year and a reduction in POWER (application software) costs of \$15,000 annually. Table 8 shows projected avoided costs by fiscal year. Sarpy County savings are calculated at 4% increases per year with fixed Viper maintenance and power costs. In addition, there may be reduced costs by routing all trunks to one place; however, these costs cannot be estimated at this time and are not included in the table

Table 8: Shared 9-1-1 call center projected avoided costs

Fiscal Year	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
Personnel	\$0	\$0	\$250,034	\$260,036	\$270,437	\$281,255
Other	\$0	\$0	\$47,640	\$47,640	\$47,640	\$47,640
Total	\$0	\$0	\$297,674	\$307,676	\$318,077	\$328,895

Net projected changes in costs of the Shared 9-1-1 Call Center are shown in Table 9. The committee projects a modest cost savings as a result of the shared call center.

Table 9: Net costs for operation of the shared 9-1-1 center by year

Fiscal Year	FY12-13	FY13-14	FY14-15	FY15-16	FY16-17	FY17-18
Projected Additional Costs	\$0	\$0	\$287,979	\$299,471	\$311,421	\$323,850
Projected Avoided Costs	\$0	\$0	\$297,890	\$308,005	\$318,526	\$329,467
Additional Costs/(Savings)	\$0	\$0	(\$9,9-1-1)	(\$8,534)	(\$7,105)	(\$5,617)

It is anticipated that there may be other savings due to economy of scale. Large call centers tend to have opportunities for greater efficiencies. Table 10 indicates that per call costs for larger centers in the tri-county area are lower (Note: the figures are not actual costs of each 9-1-1 call since the call centers have many functions in addition to answering 9-1-1 calls; however, the comparison is useful to demonstrate relative costs. We assume other functions are similar across call centers and proportional to the 9-1-1 call volume).

Table 10: Comparison costs for 9-1-1 costs by county

	Douglas County	Sarpy County	Washington County
Annual 9-1-1 Incoming Calls	387,259	52,273	5,064
Annual Call Center Budget	\$6,636,820	\$3,650,091	\$596,992
Cost per Call	\$17.13	\$69.83	\$117.89

In addition, there are likely to be additional monetary savings as the three counties work in partnership to replace equipment and make upgrades to make use of new technology to take advantage of Next Generation 9-1-1 capabilities.

Other Benefits

The above analysis indicates within 18 months to two years, the tri-county area can move towards a shared 9-1-1 center with decentralized dispatch with minimal cost. As pointed out at the kick off meeting of this initiative, the primary motivation for shared services in most jurisdictions across the country is not immediate cost reduction, but improved performance and potential future cost reductions. Douglas County currently falls slightly below the goal of achieving 90% of calls within 10 seconds.

The Level of Service for Sarpy County is 90.71% of calls answered within 10 seconds for the period January through November 2012. Washington County does not have data for level of service. It is anticipated that with the staffing model proposed, the level of service for the tri-county area will meet the standard of answering 90% of calls within 10 seconds. Evaluation metrics are in place to monitor this goal.

Cost Allocation

There are a number of ways costs can be shared across counties (e.g., population, call volume, etc.). The committee calculated costs by county by a number of methods to illustrate possibilities. The cost of the shared services 9-1-1 center is estimated by the following method:

1. Take the current Douglas County call center total budget
2. Add the cost for increased 9-1-1 staff calculated above to estimate

3. Use factors such as population and call volume to illustrate costs by county

Estimated cost of the shared 9-1-1 call center is shown in Table 11 .

Table 11: Estimated projected costs of shared 9-1-1 call center in FY12-13 dollars

Cost Category	Calculation	Amount
Admin/Tech Salaries	\$953,157 (actual salaries) X 27.87% (proportion of 9-1-1 call takers to all phone staff)	\$265,645
Operator Salaries	Actual	\$721,325
Total Salaries		\$986,970
FICA	\$986,970 X 7.65%	\$75,503
Pension	\$986,970 X 8.5%	\$83,892
Health Insurance	Actual	\$243,619
Total Salaries and Benefits		\$1,389,984
Total Equipment and Maintenance		\$500,166
Total costs of current DC 9-1-1 Center		\$1,890,150
Costs of four additional staff for shared 9-1-1 center	See Table 5	\$266,306
Total estimated costs of shared 9-1-1 call center		\$2,156,456

Allocation of costs by county could be apportioned a number of ways such as by population, call center volume, etc. Below are allocations by population (see Table 12) and by call volume (see Tables 13 through 15). Allocation within counties (for example across 9-1-1 centers for counties that have more than one 9-1-1 center) would need to be determined as well.

Table 12: Example cost allocation based on population.

County	2011 Population	Proportion	Allocation
Douglas	524,861	74.16%	\$1,599,228
Sarpy	162,561	22.97%	\$495,338
Washington	20,295	2.87%	\$61,890
Total	707,717	100.00%	\$2,156,456

Table 13: Call volume by County

Type of Call	Douglas	Sarpy	Washington
Administrative Calls for Service	73,458	49,723	8,307
9-1-1 Calls for Service	326,653	20,881	925
Officer Initiated Calls	73,235	86,825	13,710

Total	473,346	157,429	22,942
-------	---------	---------	--------

Table 14: Example cost allocation based on 9-1-1 calls for service.

County	2012 9-1-1 Calls	Proportion	Allocation
Douglas	326,653	93.74%	\$2,021,462
Sarpy	20,881	5.99%	\$129,172
Washington	925	.27%	\$5,822
Total	348,459	100.00%	\$2,156,456

Table 15: Example cost allocation based on total 9-1-1 calls received. (See Table 1)

<u>County</u>	<u>2012 Total 9-1-1 Calls Received</u>	<u>Proportion</u>	<u>Allocation</u>
Douglas	387,259	87.10%	\$1,878,273
Sarpy	52,273	11.76%	\$253,599
Washington	5,064	1.14%	\$24,584
Total	444,596	100.00%	\$2,156,456

References

Dispatch Magazine On-Line (2012). Police shift scheduling. Obtained on 12/14/2012 at <http://www.9-1-1dispatch.com/shifts/index.html>.

Lafond, M. (2012). Improve your 9-1-1 Service by answering the phone: Using Erlang-C to compare PSAPs. *Public Safety Communications*, 78, 30-37.